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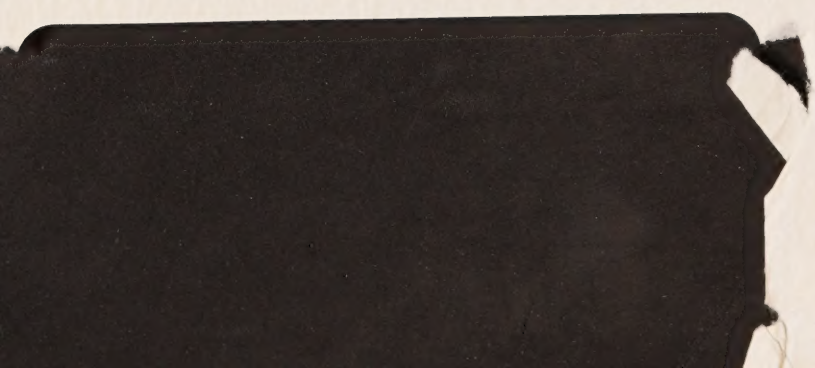
WATERLOO REGION REVIEW COMMISSION

W.H. PALMER
COMMISSIONER

ISSUES IN MUNICIPAL FINANCE

NOVEMBER 1978



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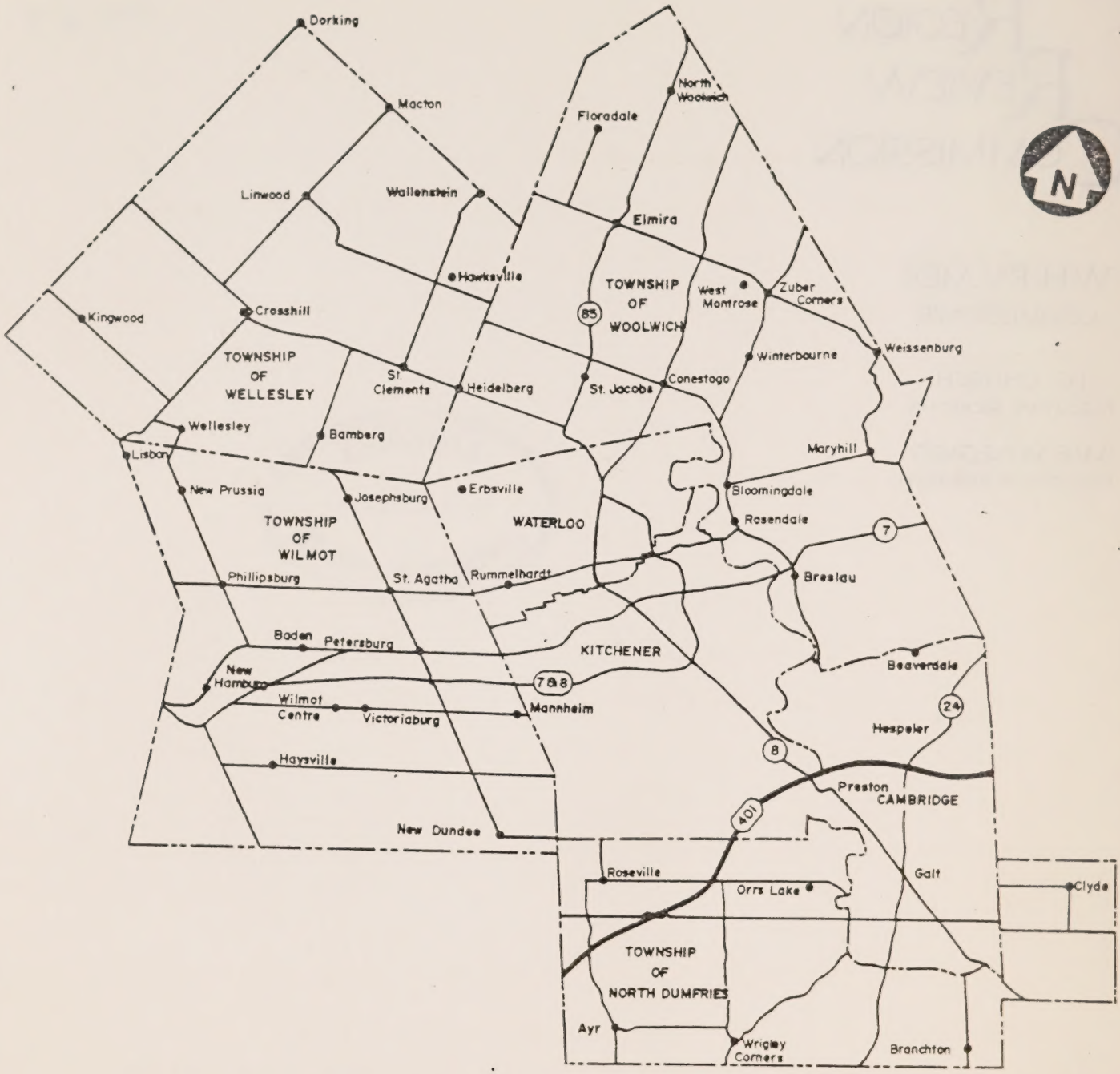

REGIONAL MUNICIPALITY OF WATERLOO

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SCALE

PREFACE

Most of the research reports of the Waterloo Region Review Commission have been detailed examinations of the situation concerning a municipal service within the Region of Waterloo. This publication is different. It is a survey of perhaps the most crucial facet of any government - where and how revenues are raised.

The primary sources of revenue for local government are the property tax and provincial grants. This study examines the sufficiency, effect and drawbacks of these and other revenues.

The Province of Ontario has almost one hundred programs of grants and subsidies to local government. This study establishes a framework by which it is possible to judge if a particular provincial grant serves any purpose other than to give the Province the capacity to control what municipalities do. The evidence is that many are counter-productive, most reduce the accountability of local councils and some serve no legitimate provincial interest.

In most literature and almost all political debates, it is accepted that the Province can and should establish minimum standards for a number of services provided by municipalities. It is also generally accepted that the Province must be responsible for ensuring that local governments have the funds

to meet their responsibilities. Further it is reasonable that the Province should maintain an influence in those "municipal" activities which have a substantial effect beyond the political boundaries of any single municipality. In some cases conditional grants may or may not be the best way to serve these legitimate purposes.

The thrust of this study is that, because of the way the Province funds local government, it goes beyond its legitimate role and either intentionally or otherwise inserts its pervasive influence into matters which are entirely local. Many, if not most, conditional grants so control local activity that local councils have little discretion over priorities and service levels for their communities. In so far as these grants are designed to protect one of the provincial interests, this may not be a cause for concern. However, this and a number of other studies (most notably the recent report of the Grants Reform Committee) suggest that many of the conditional grants serve no provincial interest and in other cases the provincial interest could be protected through a more discriminating mechanism.

None of this is news to local government or to the Province. Both levels have been looking for solutions and both have contributed to the problem. A former Treasurer of the Province once remarked that municipalities are always keen to get rid of conditional grants in theory, but every time they want to do something, they ask Queen's Park to help pay for it. On the other hand, a common municipal complaint is that the Province is urging local governments to set priorities and keep spending down while all the time causing them to spend more to get more. They complain that conditional grants are

the unseen puppeteer causing the municipal marionettes to jerk about spasmodically, changing direction as the Province moves its monetary strings about.

This study goes on to examine alternative ways to provide local government with the sources of revenue which it must have to exercise meaningful responsibility.

It discusses in detail the potential for greater use of the property tax. Two major hurdles would have to be cleared before the property tax could be expanded. First, the method by which property values are assessed must be standardized. Chapter Three illustrates just how inequitable the present assessments are. Second, we must ensure that the property tax does not increase for the poor, those on fixed incomes and those trying to raise a family in decent surroundings. This means the property tax must be made progressive like the income tax. To a large extent the property tax credit appears to do this already. With some refinement, it is argued, the property tax credit scheme could make real property tax more progressive than income tax. If these two problems are overcome, the study demonstrates that the property tax can be increased significantly as the mainstay of local government activities.

Less fundamental changes in funding local government could also substantially reduce the distortionary effect of provincial grants. Block grants are discussed as a way in which the Province can specify what standards must be met without the inflexible, bureaucratic and expensive process of providing specific conditional grants.

The final chapter of this study addresses one of the questions which is fundamental to the planning and development of every municipality. It demonstrates that every area municipality in this Region loses money if it gains a new industry which provides a million dollars of assessment. This by no means suggests that industries should not be sought for reasons of stimulating the local economy and providing employment but it does indicate that each municipality in Waterloo would benefit if an industry located elsewhere in the Region. This has major implications for industrial development policies and I would urge all interested people to study Chapter Six with care.

In closing, I want to thank Harry Kitchen of the Department of Economics of Trent University who carried out this study. Mr. Kitchen is emerging as an authority on municipal financing and certainly this Commission is the richer for his contribution. Thanks are also due to Paul Stenton who so ably assisted Mr. Kitchen with his research and drafted sections of the report. The assistance of the Canadian Tax Foundation and particularly of David Penny is also appreciated. Our office manager Diane Bryce did her usual excellent job of proofreading and organizing the preparation and production of this study while Muriel Faulkner and Carol Sherman have my thanks for their secretarial contributions.

W. H. Palmer
Commissioner

November, 1978

LIST OF PUBLICATIONS

PROSPECTUS	OCTOBER 1977
PLANNING SERIES 1, PERSPECTIVES	MAY 1978
FINANCIAL DATA BASE	MAY 1978
PUBLIC ATTITUDE SURVEY	JUNE 1978
ENVIRONMENTAL SERVICES	AUGUST 1978
AN ANALYSIS OF COMPUTER USE IN WATERLOO LOCAL GOVERNMENTS	AUGUST 1978
PURCHASING IN WATERLOO LOCAL GOVERNMENTS	AUGUST 1978
REPRESENTATION AND THE ELECTORAL SYSTEM IN THE REGION OF WATERLOO	SEPTEMBER 1978
PLANNING SERIES 2, PLANNING ADMINISTRATION AND DEVELOPMENT CONTROL IN THE REGION OF WATERLOO	OCTOBER 1978
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CHAPTER ONE

SUMMARY

While various studies of local government have forwarded different principles to guide local government structure, most agree that any system should be designed to achieve the following:

1. local preferences should be satisfied by the action of providing services through the lowest level of government which is capable of carrying out that service;
2. services should be provided at the lowest cost per unit;
3. local governments must attempt to supply the mix and level of services desired by the public.

To achieve these principles, a number of criteria must be met. These include:

1. local decision makers must be readily accountable for their decisions;
2. duplication of services must be avoided;
3. elected representatives must have the wherewithal to respond to the interests of the taxpayers on local issues;

4. local representatives must be accessible to the taxpayers;

5. residents must be able to participate in local decision making with reasonable ease;

6. issues for which local governments are responsible must be clearly identified;

7. local governments must be able to establish priorities among the demands placed on them;

8. local governments must have adequate resources to meet those of the demands placed on them which have been given priority.

With the above-mentioned principles and criteria in mind, we shall outline the trends and patterns in the different expenditure and revenue categories of local governments in the Waterloo area.

Chapter Two is a summary of the sources of revenue for local governments in Waterloo and of the purposes to which the revenue is expended. Local government in Waterloo spends over $200,000,000 a year or $665 for every resident of the Region. Of this, almost half goes to education, and about 10% to each of transportation and protection (fire and police). General government, recreation and social services take up about 5% each, with the remaining 15% taken up by several smaller spending functions. The chapter explores the trends in spending on the various functions and notes a shift from "hard" to "soft" services.

It then looks at the effect of the changed spending patterns

on spending per household. Figure 2 gives dramatic illustration to the trend. This analysis confirms previous studies which found that, although spending generally increased rapidly after 1973, it was not as a rule the result of spending by the new Regional Municipality. The most rapid increases were in education, transit, recreation, social services, fire and police protection, and general government. Of these only social services is the responsibility of the Regional Council (although the Region also contributes to the general government costs).

A major portion of Chapter Two is devoted to an analysis of revenue. Less than half the local government revenue comes from property tax, with another 42% coming from provincial grants. The rest is made up from a variety of other charges. The analysis shows that since 1969 first grants and later on property tax have been the fastest increasing sources of revenue (other than the catch all "other" category).

Chapters Three and Four are devoted to a detailed analysis of the two major sources of local government revenue property tax and provincial grants respectively. Chapter Three explores in detail the problem of the existing assessment base. A series of tables in this chapter demonstrates the wide variations and inequities in the assessments now in use. If any further evidence is needed to spur the reform of the property tax, even the most skeptical of readers will find food for thought in this section.

The next part of Chapter Three explores the question of whether the property tax is a regressive, excessive or unfair tax. It argues that

once an appropriate assessment base is implemented, the property tax is a much "better" tax than normally believed. It has grown far less quickly than average income, is less easily evaded than income tax, provides a direct link to decision makers so that it enhances control by the voters. Through a variety of means it can be less regressive than it has been and even progressive to some degree.

Chapter Four explores the various grants provided by the Province to local government. It outlines the rationale for the various types of grants and evaluates each type through both economic and political criteria. It concludes that few of the conditional grants now offered to local government are warranted and that the use of alternative revenue sources would make better economic and political sense. Among these alternatives, deconditionalization and block funding are discussed.

Chapter Five explores the question of economies of scale in local government. When is big government more efficient than smaller government and vice versa? The chapter examines a number of research studies and finds that for some services there is an inverse relationship between size and cost per unit. This relationship, however, is both tenuous and unpredictable. Furthermore, it finds that in practice it would be impossible to develop a municipality of optimal size for all services. It concludes that it is not feasible to determine municipal boundaries in order to achieve maximum economies.

CHAPTER TWO

LOCAL GOVERNMENT REVENUE AND EXPENDITURES

I. EXPENDITURES

Local government spending[1] in the Waterloo Region has increased substantially over the past few years. In 1969, it totalled over $79 million whereas by 1976, it had risen to $200 million for an increase of some 153 percent. After taking inflation into account, the rate of increase was still significant at 60 percent. In light of this fact, this study will assess the recent trends and patterns in current expenditures and revenues and discuss a number of issues relating to these items.

Comparative Analysis of Total Current Expenditures

In Figure 1 expenditures for each of the major municipal functions are shown as percentages of total current expenditures in the Waterloo Region for the year 1969 to 1976. This time period includes the four years (1969-1972) immediately preceding the implementation of regional government and the first four operational years of regional government. Expenditures for each function represent the total expenditures on that function by all of the area municipalities and the upper-tier municipality (1969-1972, County; 1973-1976, Region).

[1] Expenditures include those of all areas municipalities and all boards and commissions (including transit, waterworks and education) with the only exception being the hydro commissions.

Of some interest is the fact that the categories of current expenditures have not significantly changed in terms of their relative importance over the eight year period. This is not to state that some individual municipalities or certain sub-functions have not experienced noticeable shifts but rather our analysis implies that the total expenditures in these areas have not seriously shifted in terms of their relative importance.[2]

Education which absorbed over 52 percent of the total system's expenditures in 1969 accounted for 49 percent in 1976, a modest decrease of some 3.4 percentage points. Similar decreases were noted in transportation services (from 14.8 percent in 1969 to 10.2 percent in 1976), health services (2.2 percent in 1969 compared to 1.5 percent in 1976), and planning and development (1.8 percent in 1969 and 1.2 percent in 1976). The greatest percentage increase occurred in expenditures on social and family services (from 2.6 to 5.1 percent of total expenditures) over the eight year period, followed by transit (from 1.7 to 2.9 percent of total current expenditures), general government (from 4.7 to 6.0 percent), recreation and cultural services (from 5.4 to 6.6 percent), waterworks (2.3 to 2.7 percent), and environmental services (3.7 to 3.9 percent).

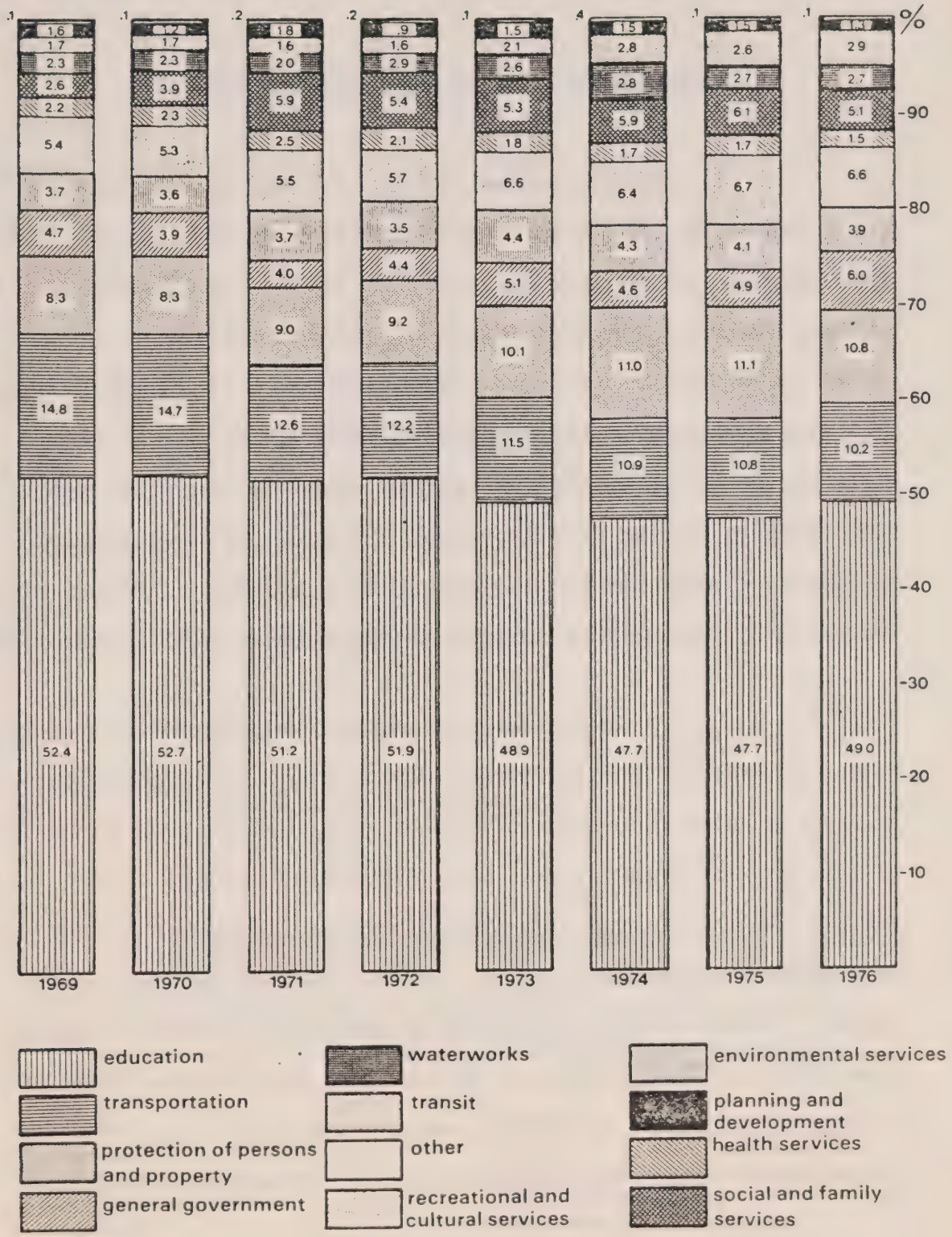
From the above comparison, it is obvious that the trend in expenditure is towards allocating a greater amount of the total budget to the 'soft' services including protection, social and family expenditures, and recreation and cultural services, and towards allocating a lesser amount to 'hard' services like transportation. It can also be noted that those expenditures which are increasing most rapidly have a large labour

[2] For a thorough discussion of expenditures by function and sub-function within the various municipalities, see The Financial Data Base, ch. 3, May 1978, Waterloo Region Review Commission.

Figure 1

Current Expenditures as a Percentage of Total Expenditure

in the Waterloo System



Source: Appendix A

component, and with the rising costs of labour, allocations to these functions will likely continue to increase in the future.

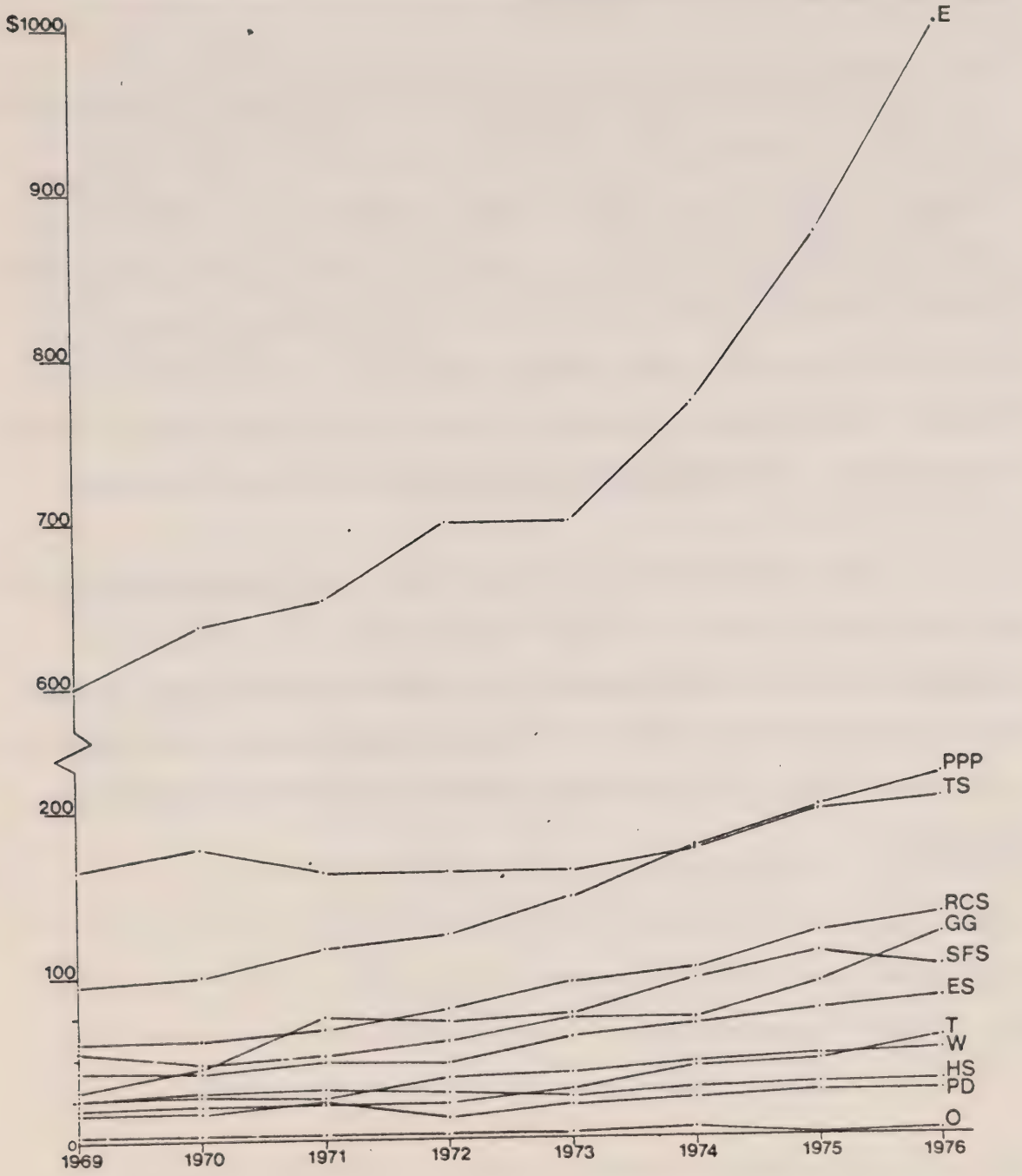
Per Household Current Expenditures 1969-1976

The preceding section reviewed the expenditures in terms of the percentage of the overall budget which each absorbed in eight different years and hence illustrated the changes in the relative importance of each of these functions. However, it did not indicate whether and to what extent the expenditures increased or decreased on a per household basis. Employing households as the common denominator yields a major benefit which may be self-explanatory but perhaps should be cited once again. Total expenditures can increase because the number of households has increased and hence the total service must be expanded. To discount this factor, it is necessary to calculate expenditures on a per household basis.

Figure 2 illustrates such expenditures for each of the twelve different functions over the period 1969 to 1976. The greatest absolute increase occurred in educational expenditures, with the greatest portion of this increase arising in the post 1973 period. In fact in 1976, the per household educational expenditure accounted for almost half (49 percent or $1,006.25 per household) of the entire current expenditures of the Region. The next highest categories included protection to persons and property ($220.72 per household) and transportation services ($209.38 per household) with almost all of the remainder hovering in the $50 to $135 per household range. The largest percentage increase in this period

Figure 2

Expenditure per Household by Function 1969-1976



E-education
PPP-protection of persons and property
GG-general government
TS-transportation services
W-waterworks
T-transit
O-other
RCS-recreational and cultural services
HS-health services
PD-planning and development
ES-environmental services
SFS-social and family services

Source: Appendix A

occurred in the area of social and family services, once again indicating that increased expenditures on the so-called 'soft' services have been expanding faster than other services.

Of interest in this analysis is the fact that the implementation of regional government beginning in 1973 did not lead to substantial increases in costs for the entire Region as suggested by a number of taxpayers. Indeed, the rate of increase in the cost of providing a number of services was lower than it had been in previous years. However, substantial increases in some municipalities did occur, while the rate of increase in others either decreased or was not out of line with the overall increase which would have arisen in the absence of regional government.

More specifically, a number of rural municipalities either did not have or did not pay for certain services which they automatically acquired after regional government. This resulted in the larger increases in expenditure and the necessity to finance these services out of property tax dollars. These included police, recreation and to some extent social services.

II. REVENUE

To meet the annual current expenditures undertaken by the various municipalities, boards and commissions, local governments must raise an equivalent amount of revenue in the form of taxes, grants, user charges, payments-in-lieu of taxes or a number of smaller and less significant special charges and other revenue. Perhaps a brief description of each of these is in order.

A. DESCRIPTION OF REVENUE SOURCES

1. REAL PROPERTY TAX

The major source of revenue generated from the local tax base comes from a tax on real property. Real property is defined as land plus all buildings permanently affixed to land.

In Southern Ontario the tax on real property is exclusively a municipal responsibility. Property taxes are designed so that a municipality may maintain a differential between residential and commercial mill rates amounting to a 15 percent lower rate for residential municipal taxes and a 10 percent lower rate for residential school taxes.

In the case of residential and farm property, the mill rate (tax rate on property) is applied to the assessed value in order to establish the actual taxes payable. In the case of commercial establishments, the

mill rate is applied to the business assessment which is a specific percentage of the real property assessment. "At the present time the percentages vary by type of business from 25 percent for car parks to 140 percent for distillers."[3]

2. PAYMENTS-IN-LIEU-OF-TAXES

The Municipal Tax Assistance Act provides for payments-in-lieu of municipal taxes on specific properties of federal and provincial governments which are otherwise exempt from taxes. Unfortunately these payments may not provide for the full amount of taxes otherwise due. Examples of grants-in-lieu of taxes include i) annual payments of $50 for each full-time student enrolled in either a community college of applied arts and technology or a university; . ii) a payment of $50 per bed for public hospitals, mental retardation centres and provincial training centres; iii) payments by Ontario Hydro and Ontario Housing; and iv) payments by municipal public utilities.

3. GRANTS

The Ontario Committee on Taxation and the Provincial Municipal-Grants Reform Committee for Ontario concur on their overall impression of the Province's grants system. It is chaotic. As the first group pointed out in 1967 and the latter group concluded a decade later, "it is not even possible to enumerate readily the grant programs currently in force."[4]

[3] Provincial and Municipal Finances, 1977, Canadian Tax Foundation, Toronto, p. 108.

[4] Report of the Provincial-Municipal Grants Reform Committee, Vol. I, Toronto, 1976, p. 19.

The Grants Reform Committee estimates that the system includes a complex set of about ninety grant programs. These grants are comprised of a few unconditional grants and a maze of conditional grant programs, offered by twelve different ministries of the Ontario government. Following is a brief description of the general types of grants available along with examples, where possible, of each type found in the Ontario system.

3.a. GENERAL GRANTS

3.a.i. Unconditional Grants

An unconditional grant is a lump sum payment which is transferred from the provincial government to the municipal government with no strings attached in terms of how the money is spent. As such, it effectively increases the general revenues of the recipient government, allowing higher expenditures on public services or facilities without increasing the property tax burden on the residents of the local community. Obvious examples of unconditional grants in regions include i) the general per capita grant which is paid to the upper-tier government at a rate of $10 multiplied by the population of the component area municipalities; ii) an amount per capita based on the density of each area municipality. "The per capita density grant provides assistance to regional municipalities in recognition of the higher per capita cost of servicing sparsely populated area municipalities. It is based on a grant schedule that inversely relates population density to the per capita rate."[5] iii) a grant of $15 per capita paid to a region with a regional police force.

[5] Ibid., Vol. II, p. 395.

3.a.ii. Block Grants

Block grants have characteristics of conditional and unconditional grants. A block grant is given to a municipality to be used as it wishes within a broad functional area such as health, transportation or education. Although these grants are restricted to some degree as to the area they fund, they are much more flexible than conditional grants and less specific.

Block grants are usually associated with the consolidation of several specific conditional grants into a single more general grant to cover a general area of public service.

3.a.iii. Needs or Resource Grants

The needs or resource equalization grant is treated separately in this discussion. It could easily be classified as an unconditional grant, however, because the recipient government is not committed in the way it spends its grant money received. The purpose of this grant is to strengthen the fiscal capacity of resource deficient municipalities. In Ontario it is paid to lower-tier municipalities with below average assessment bases to enable them to improve service levels without incurring excessive property tax rates.

3.b. CONDITIONAL GRANTS

A large part of the provincial-municipal grant system consists

of different types of conditional grants. A conditional or categorical grant which transfers funds from one level of government to another stipulates how and where the funds are to be spent. The designation of these funds is undertaken by the donor government.

Within the category of conditional grants are a number of subdivisions including (1) specific non-matching or lump sum grants; (2) open-ended specific matching grants; (3) closed-ended specific matching grants; (4) and restricted conditional grants.

3.b.i. Specific Non-Matching or Lump-Sum Grants

This grant is a lump sum or predetermined amount offered to the municipal government on the condition that it must be spent on a specific function. Under such a grant, the municipality may or may not have to contribute to the funding of the service or facility from other revenue sources. This will depend on the size of the grant and the cost of the service provided. Fiscal capacity is not a factor in determining the granting of the transfer. This type of grant, like an unconditional grant, expands the spending capacity of the local government: e.g. library per-capita grant.

3.b.ii. Open-Ended Specific Matching Grant

In this case the donor government (Province in this case) agrees to fund a percentage of the municipality's expenditures on the aided function with no ceiling on the absolute level of the aid payment.

As with unconditional grants, the receipt of such funds expands the spending capacity of the local government. However, as opposed to unconditional grants and lump sum conditional grants, the matching conditional grants alter the relative costs to the municipality of various programs. The relative cost of the programs for which funds are provided becomes lower than the cost for non-funded programs. An example of this is the grant received from the Ministry of Transportation and Communication where the local government gets a grant for the cost of local road construction generally amounting to about 50 percent of total road costs. Thus road construction becomes more attractive to a municipality than the provision of another service for which no matching grant is given.

3.b.iii. Closed-Ended Specific Matching Grant

These grants are similar to those discussed in the preceding section except that they face specific restrictions at either the top or the bottom end. Generally, the granting agency places a dollar ceiling on its willingness to support municipal expenditures. For example, the Ministry of Community and Social Services provides operation subsidies to municipalities running Elderly Persons' Centres amounting to 50 percent of the net operating cost to a maximum of $15,000 per centre per year. There may also be grants which are based on a minimum level of expenditure. A matching grant may be provided once a municipality has reached a minimum level of expenditure on a function for which a grant may be given.

3.b.iv. Restricted Conditional Grant

A final category of conditional grants includes restricted conditional grants which will stipulate the services or facilities that the funds can support. Indeed, these grants place restrictions on the categories of inputs eligible for funding in certain projects. For example the Province might fund the purchase of certain capital equipment on condition that it be used to provide a specified service.

4. USER CHARGES

The fourth major source of local government revenue is user charges. A user charge is a charge imposed on those individuals who use specific services. Examples include hydro rates, water rates, service charges and to a lesser extent, development levies or local improvement charges. The latter two are used in order to finance expenditures on capital works including sewers, watermains, roads and sidewalks. Developer charges apply specifically to new development while local improvement charges are associated with additional capital expenditures required in built up areas.

Area rating is a form of user charge although it is not a price which varies with the quantity of service consumed. Instead, it is a surcharge on the mill rate. Area rates are used extensively in Cambridge to help support a number of services specifically in the urban area including sewers, roads, transit and garbage collection.

5. SPECIAL CHARGES AND OTHER REVENUE

These two categories include a number of smaller items including licences, fees, permits, rents, concessions, fines, penalties, interest on taxes, income from investments, service charges and sundry revenue, none of which is very significant on its own, yet in total may contribute reasonable sums of revenue.

B. ANALYSIS OF TOTAL REVENUE, 1969-76

In Figure 3, the yields of each of the main revenue sources are shown as a percentage of the total revenue for the entire system for the years 1969 to 1976. While the combined impact of grants and taxes did not change to any great extent in terms of their overall importance (in 1969, they accounted for 83.1 percent of all budgetary revenues while the corresponding figure in 1976 was 84.2 percent), the relative significance of these revenue sources changed considerably. For example, taxes accounted for more than 54 percent of all revenues in 1969 while they barely exceeded 42 percent of total local revenue in 1976. On the other hand, unconditional plus conditional grants yielded 29 percent of total revenue in 1969 and almost 42 percent in 1976. This increase of 12.8 percentage points in the contribution made by conditional and unconditional grants was divided such that the relative importance of the former increased by 7.7 percentage points while the latter rose by 5.1 percentage points.

Grants-in-lieu of taxes remained fairly stable in terms of their relative importance over this same time period reaching a low of 0.7 percent of total revenues in 1969, rising to a high of 1.3 in 1973 and 1974, and falling off to 1.1 percent of budgetary revenue in 1976.

User fees in this instance refer to revenues collected from passenger fares for transit services and charges for water consumed by residents and businesses in the entire Region. The revenue from other user

Figure 3

Percentage of Revenue Obtained From Each Revenue Source for the Waterloo System

property taxes
conditional grants
unconditional grants
payments-in-lieu
user-fees
special charges
other revenue

Source: Appendix B

fees was not specifically reported. To the extent that it exists, it is included in special charges or other revenue. While user fees declined from 5.1 percent of total revenue in 1969 to a low of 3.3 percent in 1975 and then rose to 3.8 percent in 1976, total revenue from water sales alone exceeded total operating costs in every year studied. By comparison, the revenue from passenger fares only exceeded the operating costs for transit services in 1969. In the remaining seven years, operating expenditures rose at a faster rate (325 percent from 1969 to 1976) than did total revenue from passenger fares (103 percent from 1969 to 1976).

Special charges and other revenue together accounted for approximately 10 percent of total revenues collected in the Region for each of the years studied.

Although taxes in the entire Waterloo area declined in relative importance, they nevertheless increased by 94.5 percent (Table 1, column 4) over the eight year period. Of more significance, though, is the fact that conditional and unconditional grants rose by 218.3 percent and 824.7 percent respectively. Obviously, a great deal of the increase in the latter category of grants can be attributed to the relatively small amount which they contributed in 1969 (almost $1.5 million) rising to nearly $14 million in 1976. By comparison, conditional grants totalled some $21.5 million in 1969 and $68.5 million in 1976. Neither payments-in-lieu of taxes, special charges nor user fees were very significant in terms of their overall contribution, yet they exhibited a fair amount of variation in terms of their increase. Payments-in-lieu of taxes rose by 280 percent while user fees and special charges exhibited the lowest rate of growth at 83 and

TABLE 1

Percentage Increase in i) Per Household Revenue; ii) Revenue Due to Additional Taxpaying Units; iii) and Total Revenue, 1969-1976

(1)	(2) Per Household Revenue Increase	(3) Revenue Increase Attributed to Additional Tax-paying Units	(4) Total Revenue Increase
	%	%	%
Property Taxes	38.7	55.8	94.5
Conditional Grants	127.0	91.3	218.3
Unconditional Grants	559.5	265.2	824.7
User Fees	30.5	52.5	83.0
Payments-in-lieu-of Taxes	171.5	109.1	280.6
Special Charges	27.9	51.4	79.3
Other Revenue	87.2	75.3	162.5
Total Revenue	75.7	72.2	147.9

Source: Columns 2 and 3 were calculated from date in Appendix B. Column 3 equals column 4 minus column 2.

79 percent respectively. In fact, these two categories along with property taxes were the only ones to exhibit a growth rate below the rate of increase in total revenue (147.0 percent). Finally, other revenue which consists of many different items increased by almost 163 percent from 1969 to 1976.

Analysis of Per Household Revenue, 1969-76

Once again, total revenues may have increased simply because there were more taxpaying units (households or individuals) from which revenue could be collected. To eliminate the increase due to additional taxpaying units, the revenue figures are presented in this section on a per household basis. As such, they will reflect the impact per taxpaying unit for eight different years.

Table 2 and Figure 4 illustrate the per household revenue from all sources for the years 1969 to 1976 inclusive. Since the earlier analysis suggested that total revenues in the entire system increased by almost 148 percent (Table 1, column 4), Table 1 also shows that the increase per household amounted to slightly more than 75 percent. This implies that the difference of almost 73 percentage points was accounted for by additional taxpaying units which came into being over the eight year period. At the same time, per household property taxes increased by $239 or nearly 39 percent. Once again the remaining part of the increase (55.8 percentage points of the total increase of 94.5 percent) was attributed to an increase in the number of household units.

The largest absolute increase in household revenue when assessed by different categories amounted to $393 (an increase of 127 percent) and

came from a substantial increase in the level of conditional grants. Of the total increase in conditional grants which amounted to more than $46 million, over 77 percent of it was a direct result of the substantial increase ($36 million) in the provincial grant for education. The remaining $10 million income came from increased grants for a number of other purposes including those for transit services (over $1 million), Children's Aid Society (over $1 million), Grand River Conservation Authority (over $600,000), and the Regional Health Unit (over $530,000).

Unconditional grants, while substantially lower than conditional grants in terms of their absolute value (see Table 2), increased by a much larger percentage than any of the other revenue categories. Most of this growth occurred from 1972 to 1973 when two of the municipalities (Kitchener and Cambridge) began receiving substantial resource equalization grants.

Payments-in-lieu of taxes showed a substantial percentage increase, but their absolute level was rather insignificant, rising from $8 per household in 1969 to slightly more than $22 per household in 1976. User fees and special charges exhibited fairly gradual and, one might argue, rather slow rates of increase. In fact these were the two slowest growing revenue sources available for the local authorities. Finally, other revenue increased at a level slightly higher than the rate of increase in total revenue for the entire system.

TABLE 2

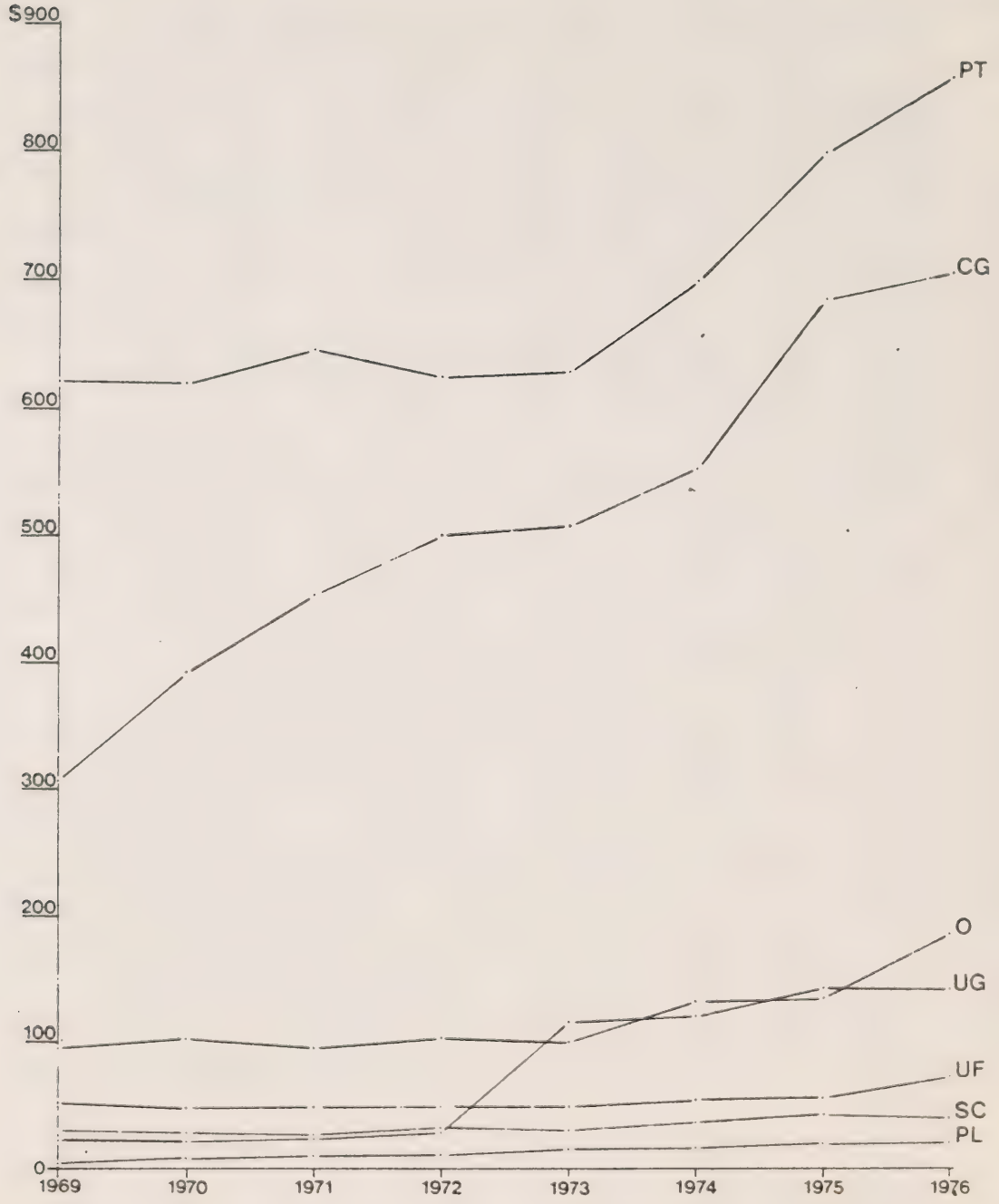
Per Household Revenue in the Waterloo Area 1969 - 1976

Revenue Source	1969	1970	1971	1972	1973	1974	1975	1976
	$	$	$	$	$	$	$	$
Property Taxes	618.22	618.09	645.21	623.77	629.78	697.69	794.41	857.62
Conditional Grants	309.57	391.17	457.87	499.92	510.09	559.51	682.88	702.79
Unconditional Grants	21.56	21.16	23.14	30.72	116.08	122.72	142.70	142.18
User Fees	58.50	55.92	57.08	56.35	56.08	62.59	62.56	76.36
Payments-in-lieu of Taxes	8.14	10.87	13.43	14.37	19.72	20.77	22.35	22.10
Special Charges	30.59	29.69	30.49	33.63	32.84	36.64	43.62	39.12
Other Revenue	96.33	105.46	97.12	107.58	102.32	133.74	136.00	180.34
Total Revenue	1149.90	1205.80	1323.61	1366.35	1466.91	1633.63	1884.52	2020.62

Source: Appendix B.

Figure 4

Revenue per Household by Function 1969-1976



PT-property taxes
CG-conditional grants
UG-unconditional grants
O-other
UF-user fees
SC-special charges
PL-payments-in-lieu

Source: Table 2

C. FINANCING OF CURRENT EXPENDITURE BY FUNCTION

The preceding sections analyzed the changing composition of total and per household revenues by source and the total and per household expenditures by function. However, nothing was stated about the way in which the current expenditures on each of the individual functions were financed. In this section, an attempt has been made to outline and to comment upon the sources of funds for each of the expenditure categories in two specific years, namely 1970 and 1976.

Tables 3 and 4 outline the percentage of each expenditure which is financed from the different revenue sources and provide us with a number of interesting observations. Property taxes have declined in terms of their relative support for each of the expenditure items from 1970 to 1976 except for transit where noticeably large contributions from property tax revenues were made by Kitchener, Waterloo and Cambridge to the transit operation in 1976. Only a small contribution had been made in one municipality (Galt) in 1970. Offsetting this decrease in tax support is a corresponding increase in the value of unconditional grants for each of the various expenditures.

Conditional grants illustrated a more erratic pattern. In certain instances, the importance of conditional grants fell from 1970 to 1976 (protection to persons and property, recreation and cultural services, and planning and development); in others it rose (transportation services, health services, social and family services, education and transit).

Of interest in the latter group is the fact that conditional grants for transit did not exist in 1970. They were only received in Cambridge beginning in 1972 and in Kitchener one year later. The remaining expenditures including general government, environmental services and the catch-all category entitled 'other' received nothing in the way of specific grants in either year.

Payments-in-lieu of taxes generally increased (the exception being health services which exhibited a modest decrease in the importance of this revenue source) from all functions while special charges fell and in the case of planning and development even disappeared.

User fees completely financed all operating expenditures associated with the provision of water (waterworks) in 1970 and about 91 percent in 1976. A similar, but much more significant decrease in the relative importance of user fees was noted in the case of transit where 96 percent of current expenditures were met in 1970 from the fare box and only 49 percent of corresponding costs were financed from this source in 1976.

The two remaining expenditure categories entitled specific other revenue and general other revenue both exhibited varying patterns over the seven year period. The importance of each of these revenue sources increased in some instances and decreased in other instances (see the last two columns of Tables 3 and 4).

Table 3

Financing of Current Expenditures - 1970

	Total Spending	Conditional Grants	Unconditional Grants	Property Taxes	Payments-in-lieu	User Fees	Special Charges	Specific Other Revenue	General Other Revenue
	$	%	%	%	%	%	%	%	%
General Government	3,588,736		6.4	79.8	2.7				11.1
Protection of Persons & Property	7,566,589	0.2	5.5	81.3	3.2				9.1
Transportation Services	13,373,336	22.1	3.5	56.5	2.1		6.0	3.5	6.3
Environmental Services	3,270,897		4.4	46.5	0.5		42.9		5.7
Health Services	2,141,804	29.6	2.9	59.1	2.1			0.1	6.2
Social and Family Services	3,563,289	58.6	1.4	24.4	0.9			12.2	2.5
Recreation & Cultural Services	4,830.795	6.3	3.5	59.0	2.2			23.4	6.6
Planning and Development	1,081,323	2.3	4.8	78.1	2.3		1.2	0.2	11.1
Education	48,049,882	44.7		47.2					8.1
Waterworks	2,090,041					100.0			
Transit	1,509,316					96.1			3.9
Other	151,864	7.8	7.8	62.5	0.2			21.0	8.5

Source: Calculated from Tables II-1, II-2, II-12 to II-21, II-23, III-80 to III-96 in Financial Data Base, May 1978, Waterloo Region Review Commission.

Table 4

Financing of Current Expenditure - 1976

	Total Spending	Conditional Grants	Unconditional Grants	Property Taxes	Payments-in-lieu	User Fees	Special Charges	Specific Other Revenue	General Other Revenue
	$	%	%	%	%	%	%	%	%
General Government	12,078,791		17.7	69.4	3.5				9.4
Protection of Persons & Property	21,517,383	0.1	24.1	66.0	3.4				6.4
Transportation Services	20,412,026	25.1	11.4	48.0	2.3		2.2	4.4	6.6
Environmental Services	7,786,826		12.6	40.1	2.0		40.7		4.6
Health Services	3,105,761	38.9	19.1	38.0	1.9			0.4	1.7
Social and Family Services	10,127,629	61.2	8.2	17.2	1.0			11.7	0.7
Recreation & Cultural Services	13,175,035	4.8	6.0	53.0	6.9			22.2	7.1
Planning and Development	2,656,697	1.3	15.3	67.0	3.4			2.7	10.3
Education	98,097,718	54.8		38.3					6.9
Waterworks	5,107,811			0.6		90.9			9.5
Transit	5,794,765	18.6	3.1	24.6	1.5	48.3			4.0
Other	200,636		16.4	68.1	3.1				12.4

Source: Calculated from data in Tables II-1, II-2, II-12 to II-21, II-23, III-97 to III-104, Financial Data Base, May 1978, Waterloo Region Review Commission.

CHAPTER THREE

PROPERTY TAX AND ASSESSMENT

In spite of increasing criticism and concern, the durability of the real property tax is supported by the fact that it has been the major source of tax revenue for local governments for many years. More recently there have been numerous attempts to reform the tax with the objective of eliminating a number of its undesirable characteristics. These include the distortions and inequities created by the variation in assessment procedures, the less than comprehensive tax base along with the differential treatment of different properties, and the tratitionally assumed regressivity of the residential property tax. While some suggestions for improvement have been implemented, others, alas, have not.

A. ASSESSMENT INEQUALITIES

Perhaps the most publicized and serious administrative fault of the real property tax has been inaccurate assessment. This criticism is founded on the observation that, " . . . the ratio of assessed value to market value shows a large amount of variation both within and among localities."[6] Under-evaluation in itself is not inequitable. If all property were assessed at the same uniform percentage of true value, the result would be simply a higher rate of tax on the lower values. The

[6] J. Johnson, "Municipal Tax Reform - Alternatives to the Real Property Tax," Canadian Public Policy, 11 Supplement, 1976, p. 337.

actual taxes paid by any homeowner would not vary because the same amount of money would be generated from the same property.

While the differences in assessment may be attributed to a number of factors, they can generally be grouped in two categories: namely, those which are intentional and those which are unintentional. Intentional variation has existed in order to achieve, ". . . objectives like increasing grants from provincial governments, . . . encouraging industries to locate in a municipality, and placating a large number of potentially vocal taxpayers - home owners."[7] Unintentional variation has arisen because of the infrequent sale and ensuing difficulty of establishing an accurate market value for certain properties or the tendency of assessors to undervalue different properties at different rates.

Regardless of the cause of variation, the ramifications can be significant insofar as they lead to a number of inequities and an inefficient allocation of resources. For example, two individuals who own properties of equal market value may pay different amounts of property tax because of different assessment bases.

Inequitable assessment has generated an increasing amount of criticism in almost every municipality in Canada. This concern has been reflected in a number of recent changes in the assessment procedure.[8] For instance, it is generally accepted in theory, although not always adopted in practice, that, "the basic criteria for an assessment system are

[7] Ibid., p. 337.

[8] For a review of the provincial assessment picture, see F.A. Clayton, "Real Property Tax Assessment Practices in Canada," Canadian Public Policy, 11 Supplement 1976, pp. 347-362. Since this article was published, the Ontario Government has announced (June, 1978) that it was no longer pursuing market value assessment across the Province.

comprehensiveness, uniformity and 'openess'."[9] To satisfy these criteria:

"1. all real property must be assessed whether taxable or not;

2. all real property must be assessed at current market value;

3. assessments should be made by trained experienced personnel working for a central agency which has direct and complete responsibility for all assessment within a province;

4. the assessment function must be organized in such a way that assessors become very familiar with local real estate markets;

5. property owners must be given ready access to pertinent assessment information and appeal bodies."[10]

The extent to which these objectives have been achieved is not always obvious. The Ontario Government has, until fairly recently, argued in favour of market value as the most equitable base for property assessment. However in June 1978 it announced that Ontario was no longer pursuing market value assessment across the Province. This provincial decision creates problems that are outlined in the following section.

Ontario has both centralized its assessment procedures and significantly raised the quality of assessment over the past two decades. Much of the improvement in the latter can be attributed to fairly extensive training programs and more rigorous educational requirements now being placed upon property tax assessors.

[9] Ibid., p. 348.

[10] Ibid., p. 349.

Finally, the extent to which taxpayers are made aware of the assessment procedures, the relationship of their assessment to other similar properties and the appeals procedure differs noticeably between provinces. Quebec and Ontario appear to be much more secretive and defensive about their position than the provinces of New Brunswick, Prince Edward Island and the four western provinces which are much more open.[11]

Assessment Problems in the Waterloo Region

Since the preceding discussion has dealt with a number of general problems in the entire field of assessment, some consideration must be given to the more specific assessment concerns facing the Waterloo Region. In fact, these problems can be broken down into two categories. One category covers the inequities which would have existed in the absence of amalgamating a number of the local municipalities into one larger unit. The other covers the inequities which have arisen because of amalgamation. Each of these will be discussed in turn.

First, Table 5 illustrates the extreme variation which existed in the ratio of market value to assessed value of residential properties in 1977 in each of the areas which were amalgamated into the new City of Cambridge (1973). In other words, in the absence of amalgamation, substantial inequities in the ratio of market to assessed value existed in each of the individual localities. For example, in Galt, the ratio of market to assessed value ranged from a factor of 3.52 to 55.45, with a median value of 10.00. In percentage terms, this means that houses were

[11] Ibid., p. 361.

assessed somewhere between 28.41 and 1.80 percent of market value, with a median value of 9.97 percent. Similar patterns can be observed for each of the remaining merged areas of Cambridge, although the median of market to assessed value was much lower in Preston and Hespeler. This suggests that, on average, homes in Preston and Hespeler were assessed at a much higher percentage of market value than in Galt, North Dumfries or Waterloo Township. In addition, it is likely that this kind of relationship would exist in other areas of the Region of Waterloo. Unfortunately, a detailed breakdown of data was not available to verify such a fact; however, newspaper reports claim that at least one-third of all residential property in Kitchener is under-assessed, while one-third is over-assessed, with the remaining third bearing an appropriate amount of assessment.

While it is not easy to catalogue the reasons for this variation in the assessment base, some insight was gained from conversations with municipal officials on this topic. In essence, it is frequently argued that assessors are human beings and therefore subject to error. Part of the assessment procedure leaves room for discretion and as such, under-assessment will undoubtedly occur in certain types of dwellings while over-assessment will arise in others. Of further significance, though, is the fact that older homes tend to be assessed on a lower percentage of market value than newer homes. This is particularly noticeable in Cambridge where older properties near the centre of the city are assessed at the same value as newer homes of the same size on the periphery. Although the assessed value of the two homes are the same the actual sale values are very different. Thus homes which are nearer the centre of a city tend to be taxed at a lower rate than homes of a similar size in outlying areas.

TABLE 5

The Range of Assessed Residential Property as a Ratio and Percent of Market Value in the City of Cambridge for 1977[1]

Merged Area	Ratio of Market Value to Assessed Value	Median of Market to Assessed Value	Assessed Value as a percent of Market Value	Median of Assessed Value as a percent of Market Value
Galt	3.52 to 55.45	10.00	28.41% to 1.80%	9.97%
Hespeler	1.34 to 12.44	2.56	74.63% to 8.04%	39.06%
Preston	1.31 to 58.51	2.38	76.34% to 1.71%	40.49%
North Dumfries	8.28 to 62.34	13.01	12.08% to 1.60%	7.44%
Waterloo Township	.34 to 47.66	13.03	294.12% to 2.10%	6.67%

[1] This does not include multi-unit dwellings.

Source: Summarized and calculated from data on assessed and market value of all residential properties supplied to the City of Cambridge from the Ministry of Treasury, Economics and Intergovernmental Affairs, Toronto, 1977.

A further inequity in the ratio of market to assessed value has arisen because home owners may literally 'gut' and restructure the interior of their homes without acquiring building permits and consequently avoiding any increases in assessed value. Such action will undoubtedly increase the market value thus creating substantial differences in the ratio of market to assessed value.

The second category of inequity in the assessment base has arisen in the city of Cambridge where all or part of five different former municipalities were included in one municipality; this has created a considerable distortion in the tax base. For example, in a speech made by Darcy McKeough (former Ontario Treasurer) he stated that a tax on a typical $60,000 home in the city of Cambridge bore property taxes ranging from $700 to $1,640 in one former municipality while the same house bore taxes ranging from $900 to $1,275 in another municipality.[12] Clearly, there is little consistency within a municipality and even less when comparing taxes on a similar house in different parts of Cambridge.

Since the level of property tax depends on the assessment base, it is the difference in this assessment which is at the root of the problem. It began a great many years ago when the various municipalities were responsible for assessment and developed highly inequitable assessments. In 1969 some parts of the Waterloo area were re-assessed, eliminating much of the inequity. However, in 1970, the Ontario Government froze assessment levels leaving some areas with an assessment based on 1969 values and others with assessments based on 1940 values (Galt) or earlier (North Dumfries and Waterloo Township). When amalgamation occurred, those areas with a 1969

[12] Reported in the Cambridge Reporter, January 4, 1978.

base which were included with areas with a 1940 base were the subject of very great inequities. Data on the ratio market to assessed value was only available for the merged areas of Cambridge (Table 5); however, it is possible to illustrate some of the inequities within the Region by referring to Table 6. This table illustrates the extreme differentials in the ratio of raw residential assessment to equalized residential assessment. In the case of Cambridge, residential units in Preston and Hespeler were re-assessed in 1969 and bore higher assessment values than the remaining areas of Cambridge which are still based on assessment values dating from 1940 or earlier. Similar differentials can be observed in other local municipalities. For example, the merged areas of Bridgeport, Ayr, Wellesley Village, New Hamburg and Elmira all exhibit ratios of actual to equalized assessment in excess of .86 illustrating the re-assessment which occurred in 1969 in each of these areas. In each case, identical homes are assessed at a higher value than in areas where re-assessment has not taken place.

Obviously, the best way to overcome this problem would be to introduce market value assessment. This would allow all merged areas to employ the same assessment base and hence eliminate the extreme variations which currently exist in the assessment practice. Taxpayers would face a simpler and less confusing property tax system. They would be completely aware of the assessment base and able to judge in a clearer fashion whether or not their assessment was just. Undoubtedly, some problems would exist and some inequities would remain, but most of the problems would be of a short-run nature. Indeed, for a number of taxpayers, taxes would fall (on those who are currently assessed near market value); for others it would

TABLE 6

Ratio of Raw Residential Assessment to Equalized Residential Assessed in the Merged Areas of the Waterloo Region, 1977

Cambridge		
	Galt	.2041
	Hespeler	.8629 *
	Preston	.8634 *
	North Dumfries	.1525
	Waterloo Township	.1278
Kitchener		
	Kitchener	.2518
	Bridgeport	.9357 *
	Waterloo Township	.1240
Waterloo		
	Waterloo (city)	.2409
	Waterloo Township	.1305
North Dumfries		
	Ayr	.8752 *
	North Dumfries Township	.1519
	Beverly Township	.1914
Wellesley		
	Wellesley Village	.9074 *
	Wellesley Township	.1673
Wilmot		
	New Hamburg	.8940 *
	Wilmot Township	.1380
Woolwich		
	Elmira	.8665 *
	Waterloo Township	.1282
	Woolwich Township	.1362

* Re-assessed in 1969

Source: Calculated from data on actual and equalized assessment for each of the merged areas.

rise (those who are currently under-assessed); while for still others it would remain at approximately the current level. Unfortunately, the Ontario Government abandoned its attempt to introduce market value assessment across the Province but agreed to adopt market value assessment if requested to do so by local councils. Fortunately, most municipal councils in the Region have voted in favour of asking the provincial government to assess all property at market value which will then be used as the assessment base.

Before leaving this discussion of residential assessment, a few comments on the relative burden of property taxes on residential units should be pursued. Assuming that Cambridge is the one area where assessment and hence local residential tax inequities are particularly serious, Table 7 illustrates the estimated total tax burden in 1978 on a home with a market value of $40,000 in each of the former municipalities in Cambridge and the two cities of Kitchener and Waterloo. As such, this table allows one to compare the local tax impact on home owners in different parts of the Region. Column 2 of Table 7 provides the median value of the ratio of market to assessed value in each of the areas studied (values were obtained from provincial data for these areas in the Region). Column 3 is obtained by dividing $40,000 (the assumed market value) by the figures in column 2 in order to obtain assessed value. Columns 4, 5, 6, and 7 are calculated by multiplying the mill rates (published in local budgets) by the assessed value.

From Table 7, the extreme variation in the estimated level of residential property taxes for each of the selected areas can be observed.

TABLE 7

Estimated Residential Property Taxes on a Home with a Market Value of $40,000 in Selected Areas in 1978

Area	Median Figure for Market to Assessed Values	Median Assessed Value	Local Taxes	Regional Taxes	School Taxes	Total Taxes
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Galt	10.00	$ 4000	$ 305	$ 107	$ 285	$ 697
Hespeler	2.56	15625	281	99	310	690
Preston (urban)	2.38	16807	302	106	320	728
North Dumfries (urban portion of Cambridge)	13.01	3075	314	110	342	766
Waterloo Township (urban portion of Cambridge	13.03	3070	365	128	343	836
Kitchener (city)	8.31	4813	227	100	294	621
Waterloo (city)	9.12	4386	137	91	284	522

Source: Column 2 was obtained from provincial figures. The values for Preston, North Dumfries and Waterloo Township were calculated for both urban and rural areas and have been applied only to the urban areas in this table: while this may introduce a marginal bias, it is not felt to be significant in any sense.
Column 3 was obtained by dividing $40,000 by the corresponding value in column in order to obtain the median assessed value. Columns 4, 5, 6, 7 were obtained by multiplying the published mill rates (from municipal budgets) by the assessed values in column 3.

Waterloo (city) home owners clearly bear the lowest property taxes ($522) on the basis of this analysis, followed by Kitchener ($621) which is 19 percent higher (on average). Continuing in ascending order, Hespeler ($690) is 32 percent above Waterloo, with Galt ($697) being almost 34 percent higher. The average level of property taxes in the urban areas of Preston ($728), North Dumfries ($766) and Waterloo Township ($836) all exceed those in Waterloo by 39 percent, 47 percent and 60 percent respectively.

Of further interest in Table 8 is the extreme variation existing in the level of taxes for local, regional and school purposes. For example, taxes for local services are estimated to range from $137 in the City of Waterloo (lowest) to a high of $365 in the urban area of Waterloo Township which is now part of Cambridge, a difference of 166 percent. Variations, although not as great, exist for both regional and school purposes. In the case of regional taxes, the difference between the lowest (City of Waterloo at $91) and the highest (urban area of Waterloo Township at $128) is 41 percent. School taxes exhibit a variation of 21 percent between the two extremes (the City of Waterloo at $284 with the urban area of Waterloo Township at $343).

Table 8 presents the total level of property taxes for each of the selected areas, using the same analysis as in Table 7, but assuming homes of differing market values, i.e. a home at $40,000, $60,000 and $80,000. Obviously, the relative ranking of taxes is the same as in Table 7 but the absolute differential in taxes is much higher. To illustrate this, the differential between the lowest and highest property

TABLE 8

Estimated Residential Property Taxes on Homes of Differing Market Values in Selected Areas in 1978

Area	$40,000		$60,000		$80,000	
	Median Assessment	Taxes	Median Assessment	Taxes	Median Assessment	Taxes
Galt	$ 4,000	$697	$ 6,000	$1,045	$ 8,000	$1,393
Hespeler	15,625	690	23,438	1,034	31,250	1,379
Preston (urban)	16,807	728	25,210	1,092	33,613	1,456
North Dumfries (urban portion of Cambridge)	3,075	766	4,612	1,150	6,149	1,533
Waterloo Township (urban portion of Cambridge)	3,070	836	4,605	1,254	6,140	1,672
Kitchener (city)	4,813	621	7,220	931	9,627	1,241
Waterloo (city)	4,386	522	6,579	784	8,772	1,046

Source: Calculated on same basis as figures in Table 7.

tax for a home of $40,000 was $314, whereas, a home of $80,000 exhibited a differential of $626.

Perhaps it should be mentioned that data on the differential tax burden on residential property which had an equalized assessment of $25,000 in the various parts of Cambridge were obtained for 1978. These figures are presented in Table 9. Unfortunately, they are calculated on a different basis and are not directly comparable to those figures in Tables 7 and 8. For example, a home with an equalized assessment of $25,000 does not have the same market value in each of the different areas of Cambridge (equal market values were the basis for comparison in Tables 7 and 8).

Table 9 suggests that property taxes in Galt are lower than those in the other urban areas of the City of Cambridge. The figures presented indicate that Hespeler is higher by $66, while Preston (urban) is higher by $49. Similar conclusions can be reached for the other areas except for the rural part of Waterloo Township where the property tax is lower than in the City of Galt. This presentation is obviously appropriate if one uses equalized assessment of $25,000 as the basis for comparison. Unfortunately, the information in Tables 7 and 9 may appear to yield different conclusions. In one instance, it is suggested that taxes in Hespeler (Table 7) are estimated to be lower than those in Galt; whereas, in the other instance (Table 9), precisely the opposite appears to be true. Why then, is this the case?

TABLE 9

Residential Property Tax on a Home
Which is Equivalent to an Equalized
Assessment of $25,000 in Cambridge in 1978

Area	Residential Property Tax
Galt	$897
Hespeler	963
Preston - Urban	946
Preston - Non-Urban	923
North Dumfries - Urban	958
North Dumfries - Non-Urban	935
Waterloo Township - Urban	899
Waterloo Township - Non-Urban	876

Source: Information obtained from Cambridge City Hall.

Table 10 attempts to reconcile these different results. In essence, the reason for the conflicting evidence is attributed to the fact that Table 9 views taxes on homes of different market values whereas Table 7 assumes identical market values. Perhaps some discussion of this would be appropriate. Column 2 of Table 10 lists the 1978 mill rates applicable in each area and column 3 reproduces the taxes recorded in Table 9. From these two columns, the actual level of assessment can be obtained since one simply multiplies the mill rate by the assessment figure to obtain the level of property taxes. Knowing two of the three factors (mill rate and taxes) allows one to obtain the third (assessment) which is recorded in column 4. Column 5 is not really necessary for our analysis but is presented since it shows the ratio of actual to equalized assessment in 1978. Column 6 lists the median value for the ratio of market to assessed residential values for each of the municipalities listed.

Given this information, one multiplies this value (column 6) by the actual assessed value (column 4) in order to obtain the actual market value (column 7). Obviously, the taxes based on identical equalized values are associated with homes of very different market values and this is what we observe. In fact, the market values range from a high of $55,864 in Preston to a low of $43,025 in the urban part of Waterloo Township, even though their equalized assessment values are identical ($25,000).

Finally, it is necessary to adjust the market values to $40,000 and then to calculate taxes payable. This is done in column 8 where we calculate the taxes payable on a $40,000 home knowing the taxes which were

TABLE 10

Reconciliation of the Differential
Tax Burden Presented in Tables 7 and 9

Area	1978 Residential Mill Rate	Residential Property Tax	Actual Assessment	Ratio of Actual to Equalized Assessment	Median Figure for Market to Assessed Value	Actual Market Value for $25,000 of Equalized Assessment	Level of Taxes on $40,000 Home
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Galt	174.187	$897	$ 5,150	.2060	10.00	$51,500	697
Hespeler	44.130	963	21,822	.8729	2.56	55,864	690
Preston (urban)	43.306	946	21,845	.8738	2.38	51,991	728
North Dumfries (urban)	249.345	958	3,842	.1537	13.01	49,984	766
Waterloo Township (urban)	272.263	899	3,302	.1321	13.03	43,025	836

Source: Column 2 was obtained from budgetary data.
Column 3 is reproduced from Table 9.
Column 4 was obtained by dividing the figures in column 3 by those in column 2 since the mill rate is applied to assessment to yield property taxes.
Column 5 is the ratio of actual to equalized assessment ($25,000).
Column 6 was obtained from column 2 of Table 7.
Column 7 was obtained by multiplying column 4 by column 6.
Column 8 is calculated by assuming that a tax of $897 was paid on a home of $51,000 in Galt and then calculating the corresponding amount of the tax on a $40,000 home. Similar calculations were conducted for the other areas.

paid on homes with market values listed in column 7. These taxes then are identical to those in column 7 of Table 7 and refer to the median level of taxes on a $40,000 home assuming the median figure for the ratio of market to assessed value (column 6 of Table 10).

Moving away from a criticism of residential assessment alone, further inequities exist between the merged areas because of the disproportionate assessment burden placed upon residential units vis-a-vis commercial/industrial units in some areas when compared with other areas.[13] In other words, the base for property taxation bears more heavily on residences and, therefore, less heavily on commercial/industrial establishments in some areas when compared with adjacent or neighbouring communities.

Table 11 illustrates this in what may appear to be a rather circuitous route. Column 2 reflects the ratio of actual to equalized assessment (see footnote 1 of Table 11) which is used in apportioning the tax liability. Column 3 presents a similar ratio for commercial and industrial assessment. Finally, the figures in column 4 are obtained by taking column 2 as a percent of column 3. Perhaps the easiest way to understand this table is to assume the following hypothetical example with exactly the same column headings as in Table 11.

[13] Alternatively, one might argue exactly the opposite, namely, that a disproportionate amount of the assessment base may rest upon commercial and industrial establishments.

	Ratio of Actual to Equalized Residential Assessment	Ratio of Actual to Equalized Commercial/ Industrial Assessment	Column 2 as a Percent of Column 3
(1)	(2)	(3)	(4)
Area A	.20	.20	100%
Area B	.30	.60	50%

In Area A, the ratio of actual to equalized assessment is identical for both residential and commercial/industrial units yielding a figure of 100% (final column). From this, one can conclude that residential units bear the same proportion of the assessment base for property tax purposes as does commercial and industrial assessment.

In Area B, the respective ratios (columns 2 and 3) are different from each other and from the corresponding ratios in Area A. In this instance, one observes that both residential and commercial/ industrial units are assessed at higher values than similar properties (and buildings) in Area A, although the residential units in Area B account for a smaller proportion of the total assessment base than is the case in Area A.

Alternatively, one can conclude that commercial and industrial property accounts for a larger proportion of the total assessment base in Area B when compared with Area A. With this relatively simple explanation behind us, it may be easier to discuss and evaluate the figures in Table 11.

Table 11 provides some interesting results. It illustrates the extreme variation in the proportion of assessment falling on the two

different assessment groups (residences and commercial/industrial) in the different merged areas of the Waterloo Region in 1977. A figure of 100 percent in column 4 suggests that assessment of both types of property is being treated fairly and uniformly. In other words, the ratio of actual to equalized assessment is the same for residential property as it is for commercial/industrial property. This is not to imply that mill rates between these two classes of property need be equal. Indeed, they may, for various reasons, be quite different, leading to unequal tax burdens. Here, we are simply looking at assessment (base for property taxes) and attempting to indicate where residential property is relatively more important or less important in the total assessment base in each of the individual municipalities.

A figure of more than 100 percent suggests that a larger than proportional share of the assessment base was borne by residential property or a less than proportionate share was borne by commercial/industrial property. A figure of less than 100 percent indicates exactly the opposite. In 1977, Beverly Township and North Dumfries (part of Cambridge) were the only two merged areas where residential assessment accounted for a larger than proportionate share of total assessment. In all other cases, the commercial/industrial mix absorbed a larger than proportionate share although the exact proportion varied significantly.

Generally speaking, residential taxpayers in the former municipalities of Galt, Kitchener, Waterloo, Waterloo Township and Woolwich Township accounted for the smallest proportionate share of the total assessment base leaving commercial/industrial property with the largest

Table 11

Ratios of Actual to Equalized Assessments, 1977

(1) Merged Area	(2) Ratio of Actual Residential Assessment to Equalized Residential Assessment.[1]	(3) Ratio of Actual Commercial/Industrial Assessment to Equalized Commercial/Industrial Assessment	(4) Column (2) as a Percent of Column (3)
Cambridge			%
Galt	.1735	.3096	56.04
Hespeler	.7335	.8812	83.24
Preston	.7339	1.0079	72.81
North Dumfries	.1297	.1101	117.80
Waterloo Twp.	.1086	.2162	50.23
Kitchener			
Kitchener (city)	.2140	.3601	59.42
Bridgeport	.7953	.9185	86.59
Waterloo Twp.	.1054	.2154	48.93
Waterloo			
Waterloo(city)	.2048	.3311	61.85
Waterloo Twp.	.1110	.2084	53.26
North Dumfries			
Ayr	.7439	.8911	83.48
N. Dumfries Twp.	.1291	.1319	97.88
Beverly Twp.	.1627	.1566	103.90
Wellesley			
Wellesley Vill.	.7690	.8858	86.81
Wellesley Twp.	.1422	.1659	85.71
Wilmot			
New Hamburg	.7599	.9536	79.69
Wilmot Township	.1173	.1553	75.53
Woolwich			
Elmira	.7365	1.0809	68.14
Waterloo Twp.	.1090	.2162	50.42
Woolwich Twp.	.1158	.1966	58.90

1. The figures in this column are calculated by taking 85 percent of the corresponding figures in the preceding table. The rationale for this arises because only 85 percent of residential equalized assessment is used in calculating the tax liability borne by each of the merged areas.

Source: Calculated from data on actual and equalized assessment for each of the merged areas.

proportionate share of total assessment. Of specific concern is the differential which exists between the localities within any municipality; for example, residents in Galt are not bearing the same proportion of the tax base as residents in Preston, Hespeler and North Dumfries. Simply stated, commercial and industrial property receive a better assessment deal in Preston and Hespeler than it does in Galt. Exactly the opposite can be stated for residential taxpayers.

Once again, market value assessment over the entire area would help eliminate this serious inequity even though it may create some substantial shifts in the impact of assessment on residential vis-a-vis commercial property.

B. THE PROPERTY TAX

Critics of the general property tax have frequently argued that the tax is not entirely comprehensive and as such, it leads to a number of distortions. First, it discriminates against land intensive industries like railways and farming, and favours industries such as trucking, air transportation and shipping industries. To alleviate this distortion, some provinces assess land intensive industries on a different basis than other property.

A further argument against the real property tax alleges that its base is too narrow. For example, it is possible that two individuals with the same wealth, income and expenditures have different amounts of real property and therefore are subject to different amounts of property tax. In principle, this problem could be eliminated by imposing a tax on all forms of wealth (real property, art, antiques, etc.) at the same rate as applied to real property. However, the difficulty of collecting information on, and evaluating the different forms of wealth would undoubtedly create severe, if not impossible, administrative difficulties, particularly for local governments.

Third, since real property taxes apply to improvements as well as land, it is argued that the tax may discriminate against improvements and discourage the upgrading of older housing stock. A partial solution to this problem would lie in site value taxation which would tax land according to its economic potential rather than the actual use to which the

property is put. However useful site value taxation may be, all provinces have embarked on assessment systems based on land and improvements, and major changes in the base system seem extremely unlikely at this time.

Fourth, allowable exemptions have substantially reduced the tax base and created a number of serious problems. For example, in Ontario in 1973 (the latest year for which tax exempt assessment figures were published by the Ontario Government), exempt property, in total, amounted to almost seventeen percent of local taxable assessment. The inclusion of this item in the tax base in that year could have reduced property taxes by roughly $100 per household while holding local tax revenues constant.[14] Full exemptions have generally been given to property "owned by upper-tiered governments, charitable, religious and educational institutions, and partial exemptions (have) often been given to farmers, homeowners and selected industries."[15] Exemptions to senior governments have been the result of constitutional considerations while exemptions given to charitable institutions, etc. have resulted from the belief that these institutions generate benefits to society for which society does not directly pay and which should be encouraged.[16]

Obviously, the exemptions of certain properties discriminate in favour of tax exempt organizations and may lead to a mix of land use which may be different from that which would exist under equal treatment of all properties. A continuation of this tax exempt status is difficult to support. If a sound case can be made for preferential treatment, then

[14] Calculated from data in 1973 Municipal Financial Information, Ministry of Treasury, Economics and Intergovernmental Affairs, Toronto, 1975.

[15] J. Johnson, "Municipal Tax Reform - Alternatives to the Real Property Tax," Canadian Public Policy, Supplement, 1976, p. 341.

[16] Ibid., p. 341.

these selected organizations should be rewarded directly in the form of grants rather than on the basis of their property holdings. In this way, the subsidies that are paid are established openly and are subject to review and amendment by the elected representatives according to their interpretation of the public interest.

However frequent the claims for the elimination of exemptions have been, public pressure, the prospect of losing a number of services supplied by the tax exempt organizations, and a tradition which prevents government support of bodies such as churches have generally resulted in recommendations which stop short of including all properties in the tax base. For instance, the most recent report on the reform of property taxation[17] recommended continued exemption for cemeteries, church property used as a place of worship, certain charitable organizations and private schools.

Finally, in virtually all suggestions for reform, it has been recommended that exempt property be assessed. In most instances where property is owned by one level of government or another, grants-in-lieu of taxes would be paid in varying proportion but would be equivalent to the value of taxes which could be collected under a truly comprehensive property tax. Table 12 records exempt property assessment (on which payments-in-lieu of taxes are paid) as a percentage of actual assessment in the merged areas of the Waterloo Region for 1977. From this, it is quickly observed that exempt residential assessment as a percentage of total residential assessment (column 2) is almost always less than exempt commercial/industrial

17 Report of the Commission on the Reform of Property Taxation in Ontario, Ontario Government, Toronto 1977, pp. 70-83.

assessment as a percent of total commercial/industrial assessment (column 3). Total exempt property as a percent of total assessment lies somewhere between the two (column 4). In neither of the cases is exempt property a significant proportion of total assessment. Galt and Kitchener have the highest percentages at 2.7 and 2.2 percent respectively.

Although the preceding four arguments have illustrated the distortions which exist under the current system of property taxation, a further criticism of a different nature revolves around the notion that the property tax is an inelastic source of revenue for local governments. Or in other words, the tax base is not flexible. As expenditures rise, the property tax base does not correspondingly increase, with the result that the rate of taxation must increase to meet expenditures. The significant flaw in this argument is that there is nothing inherent in the property tax which implies that it must be a slow growth tax. Instead, this problem has arisen because the assessed value of properties has not, by and large, kept up with market value. Indeed, more frequent assessment based on market value could make the property tax a much more attractive source of growth revenue than in the past.[18]

In spite of the substantial criticism which has been directed at the rate of increase in the property tax, a comparison of per capita income and per capita property taxes in Canada reveals a substantial difference in their respective rates of growth from 1970 to 1975. For example, per capita income rose by 87 percent while per capita real property

[18] For an indication of the substantial increase in property tax revenue which could have been obtained in Metropolitan Toronto from 1969 to 1974 by holding the mill rate at the 1969 level and assessing property according to market value, see H. M. Kitchen, Public Finance in Metropolitan Toronto, The Royal Commission on Metropolitan Toronto, 1977, pp. 180-189.

TABLE 12

Exempt Assessment as a Percent of Total Assessment for 1977

Merged Area	Exempt Residential Assessment As A Percent Of Total Res. Assessment	Exempt Comm./Ind. Assessment As A Percent Of Total Comm./Ind. Assessment	Total Exemptions As A Percent Of Total Assessment
(1)	(2)	(3)	(4)
Cambridge			
Galt	3.4%	1.9%	2.7%
Hespeler	1.2	2.2	1.5
Preston	1.2	2.1	1.4
Waterloo Township	9.0	0.6	7.7
North Dumfries	0.0	3.1	0.9
Kitchener			
Kitchener (City)	2.1	2.4	2.2
Bridgeport	0.0	0.6	0.1
Waterloo Township	0.1	3.6	1.7
Waterloo			
Waterloo (City)	0.9	1.6	1.1
Waterloo Township	0.0	24.0	2.1
North Dumfries			
Ayr	0.0	0.6	0.2
North Dumfries Township	0.0	2.7	0.7
Beverly Township	0.0	0.0	0.0
Wellesley			
Wellesley Village	0.1	1.5	0.3
Wellesley Township	0.0	0.0	0.0
Wilmot			
New Hamburg	0.0	2.9	0.8
Wilmot Township	0.0	5.9	0.8
Woolwich			
Elmira	0.9	2.3	1.4
Waterloo Township	0.0	0.3	0.2
Woolwich Township	0.0	1.9	0.5

Source: Calculated from assessment data in each of the merged areas of the Waterloo Region

taxes increased by 48 percent.[19] Obviously, if municipalities were willing to relate property taxes in some crude but direct way to personal income, then property taxes could have risen considerably more than they actually did. In fact, recent comparisons[20] of the rates of increase of selected federal, provincial and local taxes from 1970 to 1975 revealed that of all the major taxes in Canada, the relative importance of property taxes declined the fastest. When related to a specific index, provincial and local property taxes as a percentage of personal income and corporation profits before taxes fell from 4.5 percent in 1970 to 3.5 percent in 1975, a decrease of more than 22 percent.[21] In addition, data for the Waterloo Region in its entirety suggest that the average growth in personal income has far outstripped the overall increase in the residential and farm mill rate for the period 1969 to 1976.[22]

Table 13 provides us with an index reflecting the increase in personal income (column 3). This increase amounted to approximately 76.7 percent over the eight year period. A similar increase in the overall mill rate (weighted average) reflected a rise of less than 35 percent (column 2). Column 5 of this same table yields information on the additional property tax revenue which could have been raised if the mill rate had increased at the same rate as the average increase in personal

[19] Percentages calculated from data in Economic Review 1977, Department of Finance, Ottawa; Local Government Finance, actual for 1970 and preliminary for 1975, Statistics Canada.

[20] D. B. Perry, "Changes in the Canadian Tax Structure," Canadian Tax Journal, July-August 1977, pp. 441-445.

[21] Ibid., pp. 101-104

[22] The mill rate increase is a weighted average for the entire area. This is not to suggest that the increase in the mill rate did not exceed the increase in personal income in certain geographic areas of the Waterloo Region. In fact, this did happen in a few instances, mainly in some rural townships and villages. For more detail on this see Table IV-46 (p.402) in Financial Data Base, May, 1978, Waterloo Region Review Commission.

TABLE 13

Additional Residential and Farm Property Tax Revenue Generated by Increasing The Mill Rate In Line With Increases In Personal Income

(1)	(2) Index Reflecting Increase in Mill Rate for the Waterloo Region	(3) Index Reflecting Growth in Personal Income	(4) Total Residential and Farm Property Tax Revenue	(5) Additional Revenue Yielded by Increasing Mill Rate at same rate as Personal Income Increase	(6) Additional Revenue as a % of Actual Property Tax Revenue Collected
			($000)	($000)	%
1969	100.0	100.0	$22,607	0	0
1970	101.5	104.6	27,841	850	3.1
1971	102.9	112.2	29,643	2,679	9.0
1972	99.2	118.8	29,540	5,836	19.8
1973	101.1	127.2	31,867	8,227	25.8
1974	105.6	145.8	35,526	13,524	38.1
1975	122.9	163.6	43,242	14,320	33.1
1976	134.4	176.7	49,190	15,482	31.5

Source: All data are obtained or calculated from material in Financial Data Base, May 1978, Waterloo Region Review Commission.
Column 2 is calculated from Table IV-46.
Column 3 is reproduced from Table IV-46.
Column 4 is obtained by summing data in Tables IV-26 to IV-45.

income. The additional yield is not insignificant. In 1974, it would have amounted to some 38 percent (column 6) of the actual revenue collected. In 1975 and 1976, property tax revenue from residential and farm establishments would have risen by 33 and 31 percent respectively. Clearly, then, if one argues that increases in residential and farm property taxes could be justified by relating them, in some crude way, to increases in personal income, then one can easily argue that property taxes could have risen considerably more than they actually did.

A further way of evaluating the potential for increasing property taxes is to compare the rate of increase in housing prices with that of assessed values of residential homes. From this, it becomes obvious that more frequent assessment based on market value would make the property tax a more attractive source of growth revenue than at present. To gain some understanding of the potential yield from annual market value reassessment, it is necessary to proceed in a somewhat methodical manner. Table 14 illustrates the rate of increase in housing prices for the period 1970 to 1976.[23] It is interesting to note that housing prices increased by slightly more than 100 percent (column 3).

Table 15 shows the average assessment per household in the Waterloo Region; as one can quickly observe, the average assessment barely changed over the entire period. This is not too surprising in light of the freeze on assessment which was in existence during the period studied. When comparing the rate of increase in housing prices (102 percent) with that of per household assessment (3.6 percent), it is interesting to note the substantial difference between the two.

[23] 1970 rather than 1969 was chosen as the beginning year for our analysis since not all of the re-assessment for the Waterloo area was completed until the beginning of 1970. In order to maintain consistency over the entire period, it was necessary to start with 1970.

TABLE 14

Average Housing Prices in Waterloo Area

(1)	(2) Average Price[1] $	(3) Index of Housing Prices[2] %
1970	25,000	100.0
1971	25,000	100.0
1972	26,500	106.0
1973	30,500	122.0
1974	45,000	180.0
1975	46,000	184.0
1976	50,500	202.0

1 The housing prices in this table include only C.M.H.C. financed bungalows (new and resale) in Kitchener, Waterloo and Cambridge (Galt.) While this is not all inclusive, it is not a serious deficiency for we are only concerned with increases in housing prices and as long as all prices, regardless of how they are financed or size of house, increase by the same percentage from year to year, then our index in Column 3 accurately (at least as accurate as any estimate will provide) reflects these increases.

2 The index is calculated from the figures in Column 2.

Source: C.M.H.C. Canadian Housing Statistics, 1969 to 1976.

TABLE 15

Average Residential and Farm Assessment Per Household in Waterloo Area

(1)	(2)	(3)	(4)
	Residential and Farm Assessment	Average Assessment Per Household	Index of Average Household Assessment
	($000)		
1970	419,886	5575	100.0
1971	434,139	5566	99.8
1972	449,099	5421	98.1
1973	476,049	5498	98.6
1974	507,017	5678	101.8
1975	537,683	5740	103.0
1976	563,201	5777	103.6

Source: Column 2 was obtained by summing Tables IV-26 to IV-45 in Financial Data Base, May 1978, Waterloo Region Review Commission.
Column 3 was calculated by dividing column 2 by total households.
Column 4 was based on figures in column 3.

Table 16 provides an estimate of residential and farm property assessment based on the assumption that residential and farm assessment follows directly but lags behind housing price increases by one year. That is, the increase in assessment from 1975 to 1976 is in proportion to the increase in housing prices from 1974 to 1975. Column 3 illustrates the potential assessment base which could arise from market value annual re-assessment. Column 4 indicates the actual property tax revenue collected for each of the years. Column 5 estimates the total farm and residential tax yield which could have been obtained by applying the mill rate actually used in each of these years to the new expanded assessment base. Column 6 illustrates the additional revenue yield as a percent of the revenue actually collected. Obviously the yield would have been very significant. In 1975 and 1976, local governments (in total) in the Region of Waterloo could have increased their residential and farm property tax revenue by more than 70 percent (over 74 percent in 1975 and over 77 percent in 1976). In absolute dollars, this would have amounted to more than $32 million in 1975 and over $38 million in 1976.

While two different quantitative approaches have been presented in order to assess the potential revenue yield which might have been obtained from greater use of the property tax, the reader may be left in a quandary as to which is the better approach. In our opinion, the first one (increasing property taxes by increasing mill rates in line with increases in personal income) is methodologically much weaker than the second (increasing property taxes by increasing assessment in line with the increase in the market value of houses). For example, property taxes are associated with housing prices and to justify their increase on the basis of an overall

TABLE 16

Comparison of Actual Property Tax Collected with Potential Property Tax Revenue from Farm and Residential Units

(1) Year	(2) Old Assessment Base[1]	(3) Potential Assessment Base[2]	(4) Actual Tax Yield[3]	(5) Estimated Tax Yield on Potential Assessment Base[4]	(6) Additional Revenue as a Percent of Actual Revenue Collected[5]
	($000)	($000)	($000)	($000)	%
1971	434,139	434,844	29,643	29,691	0.2
1972	449,099	457,596	29,540	30,101	1.9
1973	476,049	511,711	31,867	34,254	7.5
1974	507,017	607,425	35,526	42,562	19.8
1975	537,683	939,948	43,242	75,591	74.8
1976	563,201	1,000,042	49,190	87,344	77.6

1 Column 2 of Table 15.
2 Assessment figures in this column are taken from column 3 of Table 15 and multiplied by the increase in housing prices (column 3 of Table 14) to yield assessment per household on the assumption that assessment per household lags behind housing price increases by one year. For example, the increase in assessment from 1975 to 1976 is in proportion to the increase in housing prices from 1974 to 1975.
3 Column 4 of Table 13.
4 This estimate accepts the actual overall mill rate as was actually employed in each of the years.
5 Column 4 minus column 3 as a percent of column 3.

rise in personal income which may or may not be positively correlated with property value is somewhat questionable. Obviously, increasing property taxes in line with market values (the second approach above) is by far the superior approach.

Although this discussion has illustrated the importance which the property tax could play in terms of its revenue yield, this analysis has only dealt with the residential portion of the property tax and not with this tax as applied to commercial and industrial property. Since accurate and acceptable data on commercial and industrial property were not available, it was not possible to undertake a similar analysis. However, it is a general impression that if property taxes on this category of property were increased in a similar manner, the total increase in the tax base would be very substantial. For instance, total commercial and industrial property taxes as a percentage of total residential and farm property taxes amounted to 70 percent in 1971; 73 percent in 1972; 71 percent in 1973; 75 percent in 1974; 72 percent in 1975; and 70 percent in 1976.

Regressivity

Probably the strongest and longest standing criticism of the real property tax has been directed against its alleged regressivity. It has traditionally been assumed that the tax absorbs a greater percentage of the income of low income earners than of high income earners. In fact,

the limited empirical evidence in Canada supports this claim.[24] However, in the past decade, critics have attacked this empirical evidence and the assumptions underlying the traditional view. In turn, they have provided an alternative approach which has been gathering support among academic economists and some municipal administrators if not among the public at large. Perhaps a brief outline of these two approaches, without the nuances of each, will suffice.

In essence, the conventional view suggests that the incidence of property tax on buildings (with the exception of owner-occupiers) rests on tenants in the case of residential taxation and the consumers of goods or services in the case of commercial and industrial property taxation; whereas, the new view states that the tax burden falls on all property owners. Basically this difference arises because of the way in which the property tax is viewed. The conventional approach deals with the incidence in a specific municipality, while the new approach assesses the incidence in the entire country. In this latter case, the proponents have borrowed a model of corporate tax incidence and applied it to an analysis of the property tax.[25]

[24] Clayton, F. A., "Distribution of Urban Residential Property Tax Burdens and Expenditure Benefits in Canada," Unpublished Ph.D. dissertation, Queen's University, 1966. Gillespie, W. Irwin, The Incidence of Taxes and Public Expenditures in the Canadian Economy, Studies of the Royal Commission on Taxation, No. 2, Ottawa 1964. Gillespie, W. Irwin, "On the Redistribution of Income in Canada," Canadian Tax Journal, Vol. XXIV, No. 4, July-Aug., 1976, pp. 419-450. Goffman, Irving J., The Burden of Canadian Taxation; Allocation of Federal, Provincial and Local Taxes Among Income Classes, Canadian Tax Papers, No. 29, Toronto: Canadian Tax Foundation, 1962. Maslove, Allan M., The Pattern of Taxation in Canada, A Study Prepared for the Economic Council of Canada, Ottawa, 1972.

[25] For a thorough discussion of both approaches, see R. Bird, "The Incidence of the Property Tax: Old Wine in New Bottles," in Canadian Public Policy, Supplement 1976, pp. 323-334. For a fuller discussion of this material, refer to H. Aaron, Who Pays the Property Tax?, Washington, D.C., The Brookings Institution, 1975.

Depending on the assumptions, the two views arrive at different conclusions on the incidence of the property tax, leaving individuals in a quandary as to which is the correct approach. Unfortunately, there is no simple and obvious answer to this question. In essence, specific elements of each view have their positive merits. Perhaps the best that can be said is that the new view clearly illustrates that the property tax is not as regressive as originally considered. On the other hand, it is unlikely to be as progressive as the advocates of the new view claim. Empirically and theoretically, the incidence question is in an embryonic state. Further research and analysis is required before any semblance of a definitive and conclusive position can be taken.

Irrespective of whether the tax is actually regressive, a number of provincial and municipal governments have assumed it is, or at least that it is not progressive enough. As a consequence, they have introduced certain measures to alleviate part of the burden. Relief has been granted in municipalities in Ontario by implementing a differential split mill rate so that lower rates are imposed on residential than on business properties. In other instances, specific types of property have been exempt from assessment or assessed at less than normal rates. For example, provincially owned property in municipalities in Ontario are not assessed. Instead, municipalities receive grants-in-lieu of taxes on all or certain of the provincially owned properties. As well some property tax relief is provided to farmers and golf courses whose land is assessed in relation to its value for that use rather than its market value. This is particularly important for those farmers located near urban areas. Municipalities may also institute a form of property tax relief for its senior citizens.

During the past few years one of the most popular forms of tax relief which has captured the interest of provincial and municipal politicians and administrators in Ontario includes the use of property tax credits. In Ontario, this credit is the lesser of either the property taxes or $180 plus 10 percent of property taxes less 2 percent of taxable income. Tenants are allowed a credit of 20 percent of their rental payments. In addition, the elderly (over 65) receive an extra credit of $110.

Summary Evaluation of the Property Tax

The 'so-called' regressivity of the property tax is a frequently discussed and often accepted position on property taxation. The tax is claimed to absorb a greater percentage of personal income of lower income individuals than of higher income individuals. As such, the burden of this tax is measured in terms of its impact on personal income. However, the emphasis on personal income as the best index by which to judge the fairness of a tax does not present a complete picture. An individual's ability to command goods and services is not only a function of one's income but also of one's wealth, part of which is frequently held in the form of real property. Since high income earners are more likely (through one device or another) to escape income taxes and since a larger percentage of this income is frequently converted into property, a more extensive use of the property tax would capture some of the untaxed income. In essence, property taxes should not be restrained in order to protect the incomes of low income individuals for this is neither equitable nor efficient.

Low property taxes tend to benefit those individuals with large property holdings at the expense of others. Property taxes should be allowed to increase, and to offset the higher taxes for low income recipients, tax relief measures in the form of refundable credits as in the case of Ontario or outright cash grants could be implemented.[26]

Most of the bad press and general criticism of the property tax has been predicated on the belief that it is regressive. However, as stated earlier, a review of the recent literature questions this and argues that the tax may not be regressive but rather progressive in its impact on taxpayers. While considerable uncertainty of the incidence of the property tax prevails, the introduction of tax credit schemes in Ontario clearly suggests that most, if not all, elements of regressivity have been eliminated.

Despite the poor public image, the property tax has a number of political and fiscal virtues. It is the one tax in general use that can capture part of the property values which the community has created. Its high visibility forces local officials to maintain high standards of public accountability. It is a relatively inexpensive tax to administer in that its collection and compliance costs are fairly low.

[26] For a critical assessment of a number of tax relief measures, and some support of the tax credit scheme in Ontario, see J. A. Johnson, "Municipal Tax Reform - Alternatives to the Real Property Tax," Canadian Public Policy, Supplement, 1976, pp. 343-45. The one criticism of income tax credits is that they are based solely on income and not on wealth. Consequently, they are felt to be deficient because they provide relief to certain individuals who do not require it. For example, taxpayers with substantial property holdings and low incomes may receive more relief than is desired. Although the magnitude of this problem is unlikely to be serious, partial protection could be provided by placing an upper limit on the total value of property taxes one can claim in calculating the credit.

As to whether or not the property tax can generate sufficient revenue to financially support the various functions assigned to the municipality may be a matter of some contention. Obviously, the property tax could support all municipal expenditures but this would require a substantial increase in mill rates, one which may not be acceptable to most people. Clearly, it can and in this author's opinion, should support a greater percentage of local expenditures than at present.

If such an increase does not occur, then an increasing proportion of municipal revenue will have to be obtained from other sources, be it grants, user charges, payments-in-lieu of grants or additional tax sources not currently used such as municipal income and sales taxes. In determining which of these alternate sources is more or less acceptable, the answer may partially depend upon one's approach to financial support for municipalities. It is this author's belief that grants play a useful role particularly in the case where certain expenditures such as education generate benefits which accrue to a larger area than the immediate locality (conditional grants), or where the fiscal capacity of some areas may be particularly low and not capable of supporting, in any reasonable way, certain essential expenditures (unconditional grants). In addition, user charges perform an important function in properly allocating the cost for consumption of a number of services.

On the other hand, when these other revenues are weighed against property taxes, it is our contention that property taxes could be more extensively used in a number of areas. Many of the expenditures on local services generate relatively few benefits which accrue to people

outside the region. For these services, it seems reasonable to tax the people who enjoy the benefits. In this sense, the property tax is treated like a benefit tax; that is, individuals who receive benefits from the services provided are taxed for the services. The property tax is not inherently bad; it has many positive features and with some improvements (suggested earlier) could be a more important and integral part of the overall municipal financial picture.

What has undoubtedly become an important feature of the property tax may, in the end, be the beginning of its eventual demise. This feature is its high visibility. Taxpayers almost always know the magnitude of their property taxes but can seldom recite the amount of income taxes, sales taxes, excise taxes, etc. which they pay annually. To them, property taxes have become a dreaded disease. They virtually never equate the benefits received from local expenditures with the taxes paid in support of these expenditures. Individuals treat most municipal services as if they are free goods; for example, the availability of roads, sidewalks, sewers, street lighting, police and fire protection are seldom considered as being expenditures which must be financed. They are always there, they have always been there, and somehow they will continue to be there regardless of whether each individual pays his or her property tax in support of them.

This is not meant to be a justification for the status quo. It is a plea for greater understanding by the taxpayers along with a better presentation by municipal officials of the benefits arising from public expenditures. Taxpayers should be made aware of the cost to both the community and the individual of services such as fire protection,

police protection, garbage collection and disposal, streets and roads, public health, and education, and many of the benefits arising from these expenditures. In this way, individuals can better equate the benefits received with the services required.

Taxpayers in California recently voted for a reduction in property taxes (Proposition 13). One wonders if the taxpayers voting in favour of this reduction clearly understood or attempted to assess the benefits which these taxes provided through various public expenditures. It is quite possible that a similar instance could arise in Canada. In fact, recent increases in the average mill rate in the Waterloo area have exceeded increases in personal income (see Table 17). This may account for some of the growing criticism of the property tax and its impact on homeowners and/or tenants.

If taxpayers in this area or, for that matter, in Ontario voted for a reduction in property taxes similar to that in California, the consequences are highly uncertain and indeed quite muddled. Either services would be reduced or continue to be financed in alternative ways. Perhaps greater use would be made of user fees, a possibility which has a number of positive features. Perhaps the provincial government would increase its grant support. It must be remembered, however, that this would undoubtedly lead to higher provincial income or sales taxes, a fact which may not be quickly and easily swallowed. Or perhaps, it would lead to a reduction in or elimination of a number of important services. Such a result could have serious consequences for the public at large and the poor in particular.

TABLE 17

A Comparison of Increases in Personal Income with the Average Mill Rate in the Waterloo Area

	Increase in Average Mill Rate	Increase in Average Personal Income
	%	%
1969-70	1.5	4.6
1970-71	1.4	7.3
1971-72	-3.6	5.9
1972-73	1.9	7.1
1973-74	4.5	14.6
1974-75	16.4	12.2
1975-76	9.4	8.0
1969-76	34.4	76.7

Source: Calculated from columns 2 and 3 in Table 13.

In summary, the property tax could generate greater revenue, is relatively easy to administer, is highly visible, is not necessarily regressive and can be made progressive, and leaves the municipality with a greater amount of autonomy and independence than would exist under most alternatives.

CHAPTER FOUR

GRANTS TO LOCAL GOVERNMENT AND OTHER REVENUE SOURCES

A. THE PRINCIPLES OF GRANTS

Given the wide range of grants and subsidies provided by the Ontario Government in order to support the provision of local services by regions, counties, municipalities, school boards, and other local boards and commissions, it is pertinent to ask: (1) whether or not the extensive intervention of the provincial government into the quantity and quality of services produced at the local level is justified, and to what extent the grant system addresses legitimate needs; and (2) what type of grants best fills the needs?

The first question is easily dealt with by referring to the basic economic theory pertaining to intergovernmental transfers. The second question is approached by seeing how the different types of grants stand up against a set of economic and political criteria.

There are basically two economic arguments that support an intergovernmental grants system, one covering unconditional grants and the other relating to conditional ones. The latter argument will be presented first.

1. CONDITIONAL GRANTS

Conditional grants are theoretically justified on the basis of providing subsidies which are designed to cover the costs associated with the external benefits inherent in many public services. External benefits arise when services supplied in one community generate benefits, part of which accrue to residents of neighbouring communities. In this instance, subsidies are necessary to ensure that municipalities do not neglect projects where spillover effects exist. Otherwise, a municipality may choose to finance only those projects which generate benefits solely for the residents of that community. This would leave all residents (in that community and adjacent communities) with a level of service lower than is deemed to be desirable from the provincial point of view. The value of the subsidy would be equivalent to the costs of the benefit accruing to residents in neighbouring communities.

Conditional grants allow provincial governments to channel their assistance into those services that have the largest 'spill-over' effects. They are designed to induce local governments to increase their provision of a particular service, or to ensure a certain level of quality. Thus, in theory, conditional grants are justified as having a legitimate economic purpose; in reality it appears that they are seldom used for this purpose. The inherent qualities in utilizing specific (conditional) grants so as to internalize 'spill-over' effects also allow provincial governments to use these same grants in order to change local priorities for the purpose of promoting projects in which the Province feels it has a stake or which are of considerable importance to it (Province) specifically. Wintario

grants are an obvious example of this. They are conditional grants on an 'ad hoc' basis and not designed to capture any external benefit which may exist. Yet they are of obvious importance to the provincial government because of their political visibility.

2. UNCONDITIONAL GRANTS (INCLUDING NEEDS OR RESOURCE GRANTS) AND BLOCK GRANTS

Most unconditional grants are need related, and as such basically fall in line with the theoretically justifiable function for this type of grant. The theoretical purpose for general grants is entirely different than that found for conditional grants. It is redistributive in nature.

Unconditional grants, by increasing the recipient governments' overall budgetary position, overcome problems of insufficient fiscal capacity at the local level to pay for local public services. They link local governments to the more elastic revenue sources of the province. More importantly, unconditional grants are able to deal with the equity and efficiency consequences of differences among municipal jurisdictions in income and wealth. 'Poorer' municipalities, or the ones that have low fiscal capacity can have their revenue sources expanded sufficiently to enable them to provide services on the same scope and quality as other localities in the province without overburdening their citizens with excessive property taxes. All of Ontario's unconditional grants are need related, being based on some form of equity formula such as population size or the capacity to raise local property taxes as measured by equalized assessment per capita.[27]

[27] P. Silcox, Commissioner, Essex County Local Government Restructuring Study, June, 1976, p. 134.

It is assumed that it is the Province's responsibility to try to achieve both goals of internalizing 'spill-over' effects, and redistributing income to ensure equity in public services throughout the province at comparable cost (equalization of fiscal capacity). Both of these objectives cannot be achieved with one policy instrument. The Province must employ both types of grant tools. Thus the intervention by the senior level of government into the quantity and quality of services produced at the local level is justified on a theoretical basis.

3. THE RELATIVE DESIRABILITY OF DIFFERENT TYPES OF GRANTS

There are a multitude of criteria by which to analyze the desirability of a particular grant given by a provincial government to a local government. Some come from economic theory, others from political theory. Some are mentioned in the introduction of this study as being part of the "Principles of Sound Local Government". These criteria are not always consistent with each other, and in some cases will give a polarity in the ranking of the different types of grants as to their relative merits.

There are basically four criteria employed to assess the relative merits of each type of grant, one being economic and the others being political:

1. lowest per unit cost of providing the public service (economic criterion);

2. maintaining of local authority (political criterion);

3. simplicity in understanding the grant program and clarity in jurisdictional responsibility (political criterion);

4. accountability to tax payers (political criterion).

3.a. Economic Evaluation

The single economic criterion of minimum cost cannot stand alone in any comparative analysis of costs. Nevertheless, it is important to discuss it separately since it provides some interesting insights. The use of a single criterion is based on the assumption that the over-riding economic criterion for employing a conditional as opposed to an unconditional grant is whether the grant is initiated for equity and general revenue purposes or whether it is aimed at stimulating the provision of a particular service. According to the analysis of the previous section, it is senseless to try to compare conditional and unconditional in terms of minimum cost or the allocative effect each has since each is designed to cope with very different problems. As a result, it is logical to compare grants within the two major categories, not across the categories of conditional and unconditional.

Since all of Ontario's unconditional grants are need related and none is a block grant there is little point in comparing them to see which gives the lowest cost. On the other hand, there are a variety of conditional grants in the Province's grant system making comparison useful.

In examining the question of the lowest cost conditional grant a few factors must be remembered. A conditional grant is aimed at increasing the provision of a particular public service over and above the amount which the local government would spend on it or be able to spend on it with its own financial resources. The success of this objective can be readily measured by how much stimulus the grant gives to increasing expenditures on that particular public service. Thus the minimum cost criterion which is applicable to conditional grants revolves around which type of grant provides the greatest stimulative effect towards the project in mind. In other words, for the same amount of grant money, which conditional grant will produce more of the public service?

Non-matching grants (lump sum) exert only an income effect on local governments. That is to say, the provision of a lump sum of money to the local government with the guarantee that it must be spent on a particular public good or service will increase the overall budgetary position of the government; but it will not have any effect on the relative prices of the service in question as compared to other goods and services (assuming the service already existed or that the municipality would have initiated it on its own at some level). An example of this type of grant is the Housing Policy Study Grant given to municipalities and regions, the size of which is related to the population of the recipient area. The effect of grants of this nature can be illustrated without much difficulty.

Assume that the service to be supported by the grant was already considered worthy of support by the local government and that

local funds had been reserved for its provision but not to the extent desired by the provincial government. The subsequent transferral of a lump sum grant to be spent on that service without any provision as to the level of local participation might displace some or all of the locally allocated funds. The freed-up local funds could be applied against local expenditures in other areas without necessarily stimulating increased provision of the service for which the grant was given. Consequently, the lump sum grant could increase the community's overall fiscal position but not provide the desired stimulative effect. In essence, it is and could formally be, an unconditional grant.

On the other hand, the matching grant possesses this same income effect for the overall local government's budgetary position, but it also creates a substitution effect. That is, this matching grant, by insisting that local funds be spent or maintained to some extent on a particular service, reduces the relative price of that public service as compared to other public and private goods and services. The local government, then faced with a lower cost per unit that it must pay under a matching grant scheme when compared with no grants at all, will substitute (or increase) the expenditure on this good for relatively higher priced goods and services (expenditure priorities having been changed as a result of the relative price change). The amount of increase in the provision of the service in question will depend a great deal on the extent to which the demand for the service by the local government is sensitive to price changes.

In comparing the effects of the matching and non-matching grants,

it is important to note that a non-matching grant will not alter the relative price of the services and hence may not change the mix of services supplied by local governments. By contrast, a matching grant changes the relative price in that it lowers the price of the service for which the grant is given and as such, it may change the mix of local public services which are supplied. In addition, the same amount of a specific public service can be secured at a lower cost (since the price per unit is lower) to the local government under a matching grant than under a non-matching grant.

The type of matching grant used for illustration in the previous section was open-ended. The relative efficiency of a closed-ended matching grant as compared to an open-ended one varies little and should be employed for particular types of interjurisdictional spill-overs. A matching grant that ends after reaching a certain level of expenditure is theoretically applicable to situations where spill-overs cease to exist after a specified quantity of the public goods or service has been supplied. Examples of this kind of grant include road grants which are terminated after a certain level of expenditure has been reached; however, it is doubtful that the point of termination corresponds to the end of spill-over effects arising from road usage.

Alternatively, provision of a matching grant after a certain level of expenditure has been achieved by the local government is theoretically justified in the case where the spill-over does not occur until after a certain level of output has been reached.

The final conditional grant to be looked at, a matching grant with restrictions on factor inputs eligible for funding, is less desirable from an economic efficiency point of view than the other types. The total cost of producing a given level of a public good at the local level is greater than would be the case with a matching grant without any such restrictions. By inducing the use of restricted inputs this type of grant biases the community's choice of production techniques by changing the relative prices of inputs. This distortion leads to increased costs of production as compared to equal funding for the project under a general matching conditional grant.

In conclusion, under the economic criteria (of minimum cost per unit to the local municipality) the most effective conditional grant is an unrestricted matching grant, either open or closed-ended depending on the circumstances. It can be the most effective proxy for the cost of interjurisdictional spill-overs and the greatest stimulus. However, it must be remembered that the unconditional grant is the most appropriate tool to cope with in inter-municipality equity problems and low fiscal capacity.

3.b. Political Evaluation

A ranking of grants based solely on an economic analysis does not take into consideration some important political factors in Canadian government. It does not look at the motivation behind the choice of grants, other than those based on economic analysis, thus giving an incomplete assessment of the grant picture. The choice of the type of

grant used by the provincial government is influenced a great deal by its political objectives. In particular the provincial government's extensive use of conditional grants is a result of varying political motives such as a desire to keep as much control over the funds which it disperses as possible perhaps because of a lack of faith in local government ability. Or it may be the result of the prevalent belief that separation of the expenditure and financing functions leads to excessive and wasteful expenditure because the recipient looks upon the funds as being 'free money'. Or it may be motivated by a desire to use local governments as agents to produce amounts and kinds of public goods and services which are deemed to be in the provincial government's interest. These goods and services may only be produced by changing the local government's priorities through the leverage of a matching conditional grant, and the donor government may feel a responsibility in encouraging the provision of these services. (If this is the case it must be argued that the provincial government should provide the service, but in order to reduce the likelihood of duplication and to take advantage of local expertise in various areas it may be more appropriate to designate production to local governments.) Conditional grants may be motivated by a desire to spread innovations in the provision of public goods or to control the quality of technology used by various local governments. Finally, they may be used to change jurisdictional boundaries in order to achieve economies of scales in the provision of certain services.

The desirability of these political motives and in turn the conditional grants based on them, really depends on whether they are viewed from the provincial government's or the local government's position.

Local governments may prefer to receive unconditional grants in order to maintain the greatest flexibility in their expenditure patterns. On the other hand, as shown by the possible motives listed above, donor governments typically strive for control of their money through the expenditure programs which they support. This analysis attempts to employ the criteria mentioned at the beginning of the grants section in order to cope with the polarity of purposes found behind the division in outlook by donors and recipients.

It is the underlying assumption of the following political analysis of the various types of grants and the criteria it is based on that the lowest level of government capable of providing a service will be able to recognize and respond to the needs and preferences of local taxpayers better than more senior levels of government. The criteria employed in the analysis reflect the factors inherent in a grant system that hinder a municipality from displaying the characteristics mentioned above. It is suggested that there are three factors affected by grants that have a determinant effect on local governments' ability to meet local preferences and needs. These are (1) the degree of local authority, (2) clarity and simplicity in defining jurisdictional boundaries and methods of funding services, and (3) the degree of accountability to taxpayers. The higher the level of authority, clarity and accountability, the greater the chance of providing "sound local government".

The type of grant employed will have a direct effect on the level of local autonomy. Unconditional grants with their inherent flexibility impinge less on local autonomy than conditional grants. They

have very little distortive effects on local priorities. They allow local decision-makers to decide on how to spend the grant, allowing them to provide the services they perceive as being of high priority.

On the other hand, conditional grants can have an undermining effect on the ability of a local government to respond to local priorities. Matching grants whether they are open or closed-ended exert more financial leverage on local councils than lump sum grants. The degree of distortion and infringement on local autonomy depends on how specific a grant is, and the relative priority the project was given by the local government before the grant was given. It can be concluded that the fewer strings attached to grants, the less local autonomy is undermined.

It should be clearly stated which government has jurisdiction over the provision of services for which each grant is provided. The grant formula should be simple to comprehend so that it is readily understood by legislators and taxpayers. Again, unconditional grants score well on both points. Such grants clearly give the expenditure responsibility to local governments and their formulae are generally simpler to understand. On the other hand, conditional transfers by their very nature cloud over the jurisdictional boundaries. By stating where and how the funds are to be spent, donor governments are staking a claim to responsibility in the area where the grant is aimed. Meanwhile, local governments by virtue of the fact that they must at least provide the service, if not put up some funds of its own (under matching grants), must also take some of the responsibility. With such a situation it is hard to say where jurisdictional boundaries lie.

Conditional grants can also become very complex. They can leave smaller municipalities at a disadvantage when trying to utilize them because they cannot afford the expertise required to cope with the auditing procedures and administration connected with these grant programs, let alone understand them. This situation is compounded if the grant system includes many conditional grants from different sources, using varying formulae and criteria to operate each program, as is found in Ontario. The aggregate result is a maze of programs and bureaucracies that wastes time and money when trying to muddle through. The cloudiness as to where the jurisdictional responsibilities lie between governments in areas funded by conditional grants and the complexity which these grants typically display are major drawbacks for the use of such grant programs.

It is extremely important that governments can be held accountable for their actions. Under an intergovernmental transfer program as seen in the previous section, it becomes difficult to see who has jurisdictional responsibility in various program areas. As a result, "taxpayers cannot be sure to whom their dollars go; they are not sure to whom to turn when they want information or assistance; they are not sure who they should hold accountable".[28]

Unconditional grants leave the local government accountable for its actions with the funds transferred from the provincial government. On the other hand, conditional grants leave the taxpayer in an inferior position in terms of expressing his own preferences. With conditional grants it is important to stipulate who is responsible for the service and, in turn, who becomes accountable for actions in implementing that service.

[28] Grants Reform Committee, p. 40.

Clearly from the political analysis employed, unconditional grants are superior to conditional ones in preserving "sound local government". There is really little that can be said about the relative political desirability of the different types of conditional grants. It would require a detailed examination of each conditional program in order to make any general conclusions as to their comparative effects on autonomy, clarity and accountability.

In the final analysis it is hard to say what weight should be put on each criterion, whether economic or political. It would seem that there is no getting around the fact that unconditional and conditional grants are designed to cope with very distinct and often opposing purposes.

B. GRANTS TO WATERLOO LOCAL GOVERNMENTS IN 1976: AN ANALYSIS

The local municipalities and the regional government in the Waterloo Region received $41,961,666 in grants in 1976 from nine ministries of the provincial government. This total consisted of conditional transfers of $27,664,051 and unconditional transfers of $14,297,615. [29] These transfers were granted under forty programs, thirty-one of which were conditional with the remaining nine being unconditional. Thirty-nine percent ($16,384,936) of the total grants were received by the regional government with 6 percent ($1,025,483) of this total consisting of unconditional transfers. The remainder of the grants from the provincial government was split between the lower tier municipalities with the bulk of this support going to the cities of Kitchener, Cambridge and Waterloo receiving 30.7 percent, 16.2 percent and 6.7 percent respectively (Table 18). For the area as a whole over 65 percent of the grants were in the form of conditional grants. This split was heavily influenced by the conditional grants received by the Region amounting to roughly 94 percent of its total. By contrast, six of the seven lower tier governments received 31 to 37 percent of their grants in unconditional form. Only Kitchener, at 61 percent, received the majority of its grants in the form of conditional grants.

Under any evaluation criteria applied to grants, one of the specific concerns centres around the impact which conditional grants have upon total expenditures in the recipient area. In 1976, conditional grants

[29] For a detailed breakdown of grants, see Appendix C.

TABLE 18

Conditional, Unconditional and Total Provincial Grants Awarded to the Different Areas in the Waterloo Region in 1976

Region and Merged Area	Total Grants to Municipality[1]		Unconditional Grants		Conditional Grants	
	($000)	%	($000)	%	($000)	%
Region	16,385	100.0	1,025	6.3	15,359	93.7
Cambridge	6,803	100.0	4,310	66.4	2,493	33.6
Kitchener	12,897	100.0	4,988	38.7	7,907	61.3
Waterloo	2,827	100.0	1,930	68.2	897	31.7
North Dumfries	381	100.0	261	68.4	120	31.6
Wellesley	609	100.0	384	63.1	224	36.9
Wilmot	944	100.0	648	68.6	297	31.4
Woolwich	1,115	100.0	750	67.3	365	32.7
Total	41,962	100.0	14,298	34.1	27,664	65.9

1 Some grants on fiscal year basis while others are on a calendar year basis. The totals may differ from the sum of the individual figures because of rounding errors.

Source: Information was obtained from the Provincial government.

accounted for approximately 65 percent of total expenditures on selected programs (i.e. those for which grants were given). To the extent that conditional grants are matching, and depending on the grant, the matching formula may range from 33 percent to 100 percent of total program expenditure. The receipt of these transfers implied that certain expenditures had to be undertaken and financed from local revenue. As such, the receipt of those grants meant that certain expenditures were uncontrollable from the local government's perspective. They were uncontrollable in that many of the programs were required; once the grant money was received, the remainder had to be financed from local funds.

While the actual impact on local budgets was difficult to determine, it was estimated that conditional grant programs accounted for more than 20 percent of total local and regional government expenditure in 1976. In other words, the conditional grant program locked the municipalities (in total) into specific expenditures which accounted for one-fifth of total local expenditures.

1. CONDITIONAL GRANTS RECEIVED BY MUNICIPALITIES, BOARDS AND COMMISSIONS IN THE WATERLOO REGION IN 1976

The criteria discussed in the earlier general (theoretical) analysis of grants are employed here in order to evaluate the effectiveness and desirability of the many conditional grants provided in the Waterloo Region by the Ontario Government. Most of the conditional grants provided by the provincial government to the Region and its area municipalities have the objective of ensuring that specific local services are provided

in a reasonable quantity and quality without overburdening any municipality because of an inadequate fiscal capacity or because of unavoidable local circumstances. As well, a few grants have been utilized in legitimate spill-over situations, with others displaying characteristics designed to improve the level of equity in the provision of some services across the province.

Unfortunately data on grants were not available by expenditure function to conform with the earlier expenditure analysis which was conducted on a functional basis. Consequently, the following discussion treats the grants according to the granting ministry.

1.a. Ministry of Transportation and Communications

The 'Road Construction and Maintenance Grant' was given to both the lower and upper tiers of government in the Waterloo Region in 1976. It was designed to pay part of the costs of construction and maintenance of the roads for which each municipality was responsible. For the area as a whole, it accounted for approximately 35 percent of total conditional grants received. When the area and regional governments were observed separately, it was only at the regional level where it was not the largest conditional grant. In this instance, it fell behind the grant for General Welfare Assistance.

The granting formula for the 'Road Construction and Maintenance Grant' falls under the category of a closed upper-end matching grant. The formula allows the Ministry to subsidize all lower tier municipalities at

a rate of 50 percent. The Region receives an effective rate of 54 percent on certain road and bridge maintenance and construction costs up to an annually determined limit per municipality. It is important to note that the matching provision applies to certain types of road maintenance and construction with the result that most lower tier municipalities spend more than their matching provision.

This grant might be considered as an example of a grant attempting to cope with spill-overs. Given the argument in favour of using matching grants, it must be asked whether or not the terms of the grant actually reflect the extent of the spill-over. In other words, do the matching rates of 50 and 54 percent for lower and upper tiers respectively reflect the proper division of benefits to resident and non-resident users? Do the road expenditures eligible for subsidy also represent the type of facilities used by people outside of the municipality?

It is difficult to answer either of these questions without a detailed user study illustrating the facts. However, there was some indication that the design of this grant made no conscious effort to deal with the inherent spill-over effects associated with the provision of road services. For example, the grant took into account variations in fiscal needs, the relative conditions of local roads, and input costs rather than spill-over effects. The limit placed on this grant reflected the fact that the Ministry had limited funds for the program and had to divide the money between all municipalities in the province. The ceiling was also determined by both the relative needs of the municipality pertaining directly to its road needs and the fiscal capacity of the local area.

To repeat, the road grants are not given on the basis of spill-over effects. Instead, their objective is to provide a certain quantity and quality of roads and bridges throughout the province by ensuring that this was achieved without overburdening any municipality because of low fiscal capacity or unavoidable local circumstances (such as a longer winter or rough terrain).

While the existing objective of road grants was fairly clearly outlined above, one might argue that roads generated spill-overs and as such, conditional matching grants should have been given to cope with these spill-overs, assuming that their magnitude could be measured. Indeed, if the spill-over was large, then the division of responsibility for the provision of roads should have been established so that a senior level of government, be it regional or provincial, assume responsibility for supplying the service.

A second grant from the Ministry of Transportation and Communications is the 'Public Transit Grant'. Public transit is found in three cities in the Waterloo Region: Cambridge, Kitchener and Waterloo. Total operating grants amounted to $1,567,000 in 1976 with capital subsidies totalling $3,285,000 (Waterloo did not receive capital subsidies in 1976). Kitchener received 78 percent of these operating subsidies and 91 percent of the capital grants. The remainder went to one or both of Cambridge and Waterloo.

The capital subsidies were awarded for specific capital expenses such as the purchase of buses and related facilities at a rate

of 75 percent of costs. Operating subsidies were established at 50 percent of operating deficits, subject to a ceiling which limited the subsidy to the amount paid in 1975 plus five percent. In 1977, the grant was changed from a formula based on actual deficits to one based on a percentage of operating costs covered through user fares in an attempt to encourage greater efficiency. Under the new formula, Cambridge increased its operating subsidy by 69 percent over the amount received in 1976; Kitchener's subsidy declined by 17 percent and Waterloo's grant rose by 10 percent.

Both the operating and capital transit grants appear to be given on the basis of encouraging a reasonable quantity and quality of a service which the municipality, it is argued, could not adequately provide from its own resources. The operating subsidy reflects the realization, at least on the part of policy makers, that user fares should not cover the cost of providing the facility, and that in order to provide a reasonable level of service, subsidization is needed.

The new provisions for operating grants attempt to ensure that the transit system is operated efficiently and that users pay a reasonable charge for the service (that is, that they are not under-charged). The capital grant, on the other hand, is designed to induce the purchase of new equipment and encourage the use of safe equipment. Overall, the capital and operating grant for public transit services seems to be used effectively in providing a service at a level which might be difficult for the local municipality to finance from its own funds.

1.b. Ministry of the Environment

This grant entitled the 'Oversized Facilities in Restructured Area Grant' is offered in support of capital expenditure aimed at assisting in the cost of constructing sewage and waterworks in restructured municipalities. The Regional Municipality of Waterloo was eligible for transfers equal to fifteen percent of gross capital construction costs on minimum sized facilities with the subsequent value of the grant amounting to $4,530 in 1976 and $156,118 in 1977.

The object of this grant is to promote the construction of sewage and waterworks facilities which are large enough to achieve economies of scale in operation by stating that the facility must serve a minimally sized area. As well, these facilities must meet the Environment Ministry standards and be large enough to cover future increases in the usage of the facility. While there are spill-over benefits from the Region in preserving the environment and maintaining health standards through new facilities, the main thrust behind this grant is to achieve the lowest cost possible in providing a certain level and quality of service to local residents.

This appears to be a useful grant in that it tries to create facilities large enough to achieve operating cost economies. It does not attempt to correct for spill-over effects that may be inherent in these services, and it would seem with good reason. Unlike road use, even a rough estimate of the externality (spill-over) involved would appear to be indeterminate. Although the aim of matching grants may be to change the priorities of local decision-makers, the effect of such a low rate

(15 percent paid by the provincial government) cannot be thought of as creating serious distortions in the local government decision-making process. The grant, while inducing economies of scale, leaves jurisdictional responsibility on construction, operation and financing to the Region without significantly impinging on local autonomy.

1.c. Ministry of Natural Resources

There were five different granting programs involving the Ministry of Natural Resources and the Grand River Conservation Authority (GRCA) in 1976. One of these programs, entitled the Youth Corps-Experience Program was different from the other four and was designed to provide employment through the GRCA at a cost of $83,308 to the Province (1976). This program attempted to utilize the resources of the Conservation Authority to provide useful work. The more typical grants (discussed below) were provided for the normal functions of the Conservation Authority.

The first of these so-called typical grants was one designed to cover some of the 'Administration' costs of the GRCA. The amount received totalled $379,824 (1976) and was given on the basis of a formula which provided 50 percent of approved administrative expenses. The remaining 50 percent was provided by the municipalities.

The second grant of $846,216 was obtained for the purpose of covering both capital projects and the operation and maintenance costs involved in managing the Grand River system in the Waterloo Region. The formula for capital grants ranged from 50 to 100 percent of total costs depending on the type of expenditure undertaken. Most of the grants were

given on a 50 percent basis, including capital expenditures on land purchased for flood control, low-flow augmentation, channel improvements, and river bank erosion control. Operating and maintenance costs were subsidized at a rate of 75 percent.

The third category included $226,106 in capital grants given for 'Conservation and Land Management' in the Waterloo Region in 1976. Most capital expenditures for this purpose were subsidized at a 50 percent rate.

The fourth and final grant to the GRCA in 1976 amounted to $363,627 in the form of a 'Supplementary' or an equalization grant. It was given on the basis of lower-than-average expenditures per capita. All cost sharing transfers at 50 percent could be enriched by 5 to 25 percent under this program.

In view of the earlier analysis, it can be argued that equalization efforts should be initiated through the unconditional grants network. The 'Supplementary' grant appears to be an unnecessary duplication of other unconditional grants.

The matching grants provided by the Ministry of Natural Resources might be questioned because the matching provisions cannot claim to represent the value of spill-overs present in these instances even though there are certain externalities (spill-overs) present, especially in water and conservation management, and the provision of recreational facilities. Instead, the varying matching provisions reflect different priorities placed on the desire to promote different expenditures.

Capital expenditures may be justified on the grounds that certain items should be financially supported and encouraged. However, it may be argued that the administration, operation and maintenance support is out of place. If the Province feels that the municipalities in the watershed have insufficient financial resources to support the GRCA properly, then it should award unconditional transfers to local or regional governments, leaving them in a position to determine their own expenditure patterns.

Under the present system, jurisdictional responsibility is somewhat unclear and accountability is rather low. Unless the degree of externality present is quite significant, then clear jurisdictional responsibility and control over expenditures should be the responsibility of the municipalities.

1.d. Ministry of Culture and Recreation

From April 1 to December 31, 1976, the Ministry of Culture and Recreation provided the region with $811,079 in grants for various purposes.

The largest grant of $442,565 went to 'Regional Library Boards'. The formula included a grant equal to $1.80 per capita with population being used as a needs measure. Unfortunately, this is not always felt to be the best approach. One can argue that it would be more logical to make unconditional transfers to the recipient municipality and let it allocate its funds according to its own priorities.

The second largest grant provided capital funds for construction, renovation or acquisition of community recreation centres up to $75,000 with the provision of increasing this to as much as $150,000 if the Minister felt it was appropriate. Five of the lower tier municipalities received a total of $283,587. Kitchener accounted for the largest portion ($202,860), followed by Wilmot Township ($43,721), the City of Waterloo ($18,143), Wellesley Township ($11,113) and Cambridge ($7,750).

This grant is provided on the grounds that it allows for the provision of a good which is felt by the Province to be desirable, although it does have some undesirable characteristics. The project eligibility rules are restrictive, favouring certain projects over others. This grant has been accused of distorting local government expenditure decisions and creating, in some instances, unneeded facilities. The biggest problem stemming from this capital grant is in meeting the continuous operating costs of the facility after it is completed. Small municipalities are frequently burdened with high operating costs arising from their low cost (construction costs) facility.

These problems may be illustrated by the grant supplied for rebuilding the Ayr arena. In 1977, North Dumfries Township initiated renovations to the Ayr arena with the support of a provincial grant. Since then, it has been suggested that the facilities have been under-utilized, leaving the municipality with high operating costs and an overall loss on its operation. Grants such as this have had an extreme distortive effect on local priorities. The kind of improvement that should take place is not all that extreme. Either the provincial government should eliminate

these grants and hence discourage expenditures on programs supported by them, or assume some financial responsibility over the ensuing years by increasing the fiscal capacity of the local areas through unconditional transfers.

The smallest grant (Kitchener received $18,000) from this Ministry was given to cover some of the operating costs of local museums. The formula utilized for establishing this grant varied with the number of hours or days in operation during the year along with the prior year's gross receipts and curator's salary.

Again this grant is designed to support a specific type of local expenditure and, therefore, may be provided on tenuous grounds. It could be argued that support should be made through unconditional transfers to ensure that local governments have sufficient financial resources to provide the desired services. The municipality should have control of its funds as it can allocate them according to its priorities.

The final grant from the Ministry of Culture and Recreation was for programs of recreation and amounted to $53,400 in 1976. The grants were applied to one-third of the salaries of recreation directors and the salaries of other specified staff, each designated with different yearly maximum support levels. This grant also absolved 25 percent of maintenance and operating costs up to a maximum of $1,000.

This program exerts significant leverage on local expenditures in that it creates an incentive to hire a qualified recreation director or other staff in an effort to stimulate leadership in each municipality's

recreation program. However, it leaves the municipality responsible for meeting the remainder of the costs from its other revenues. The possible distortive effect may outweigh the benefits received.

1.e. Ministry of Community and Social Services

This Ministry provided over $8 million in grants to the Waterloo Region in 1976. The largest portion of this total consisted of $3,705,167 in subsidies for General Welfare Assistance at an 80 percent cost sharing rate (50 percent federal, 30 percent provincial, and 20 percent municipal). Considerably less important in magnitude was the Administrative Grant for General Welfare Assistance. This totalled $503,175 at a 50 percent rate (federal at 50 percent and municipal at 50 percent).

Perhaps the strongest criticism of this grant revolves around the fact that municipalities should not be responsible for income redistribution or income maintenance programs. If proper equity is to be maintained between municipalities, regions, and even provinces, then steps must be taken by senior governments to equalize the funding of income support programs. Indeed, it is often suggested that the municipal level should be relieved of all responsibility for such programs.

The 'Children's Aid Society Grant' to the Regional Municipality of Waterloo amounted to $1,720,015 in 1976. The granting formula consisted of 80 percent of operating costs being supplied by the federal (44 percent) and provincial (36 percent) governments with the Region contributing 20 percent. The rationale for this grant exists on the assumption that it is

necessary to support this particular expenditure program. Given the fact that the Children's Aid Society is operated by a non-elected body and that 80 percent of its revenue comes from federal-provincial grants, there is little accountability evident in the provision of this service.

The Region received $64,301 in capital grants and $670,075 in operating grants in 1976 for 'Day Nurseries'. The capital grants were given at rates of 50 or 80 percent while the operating subsidies varied from 80 to 100 percent. Again Day Nurseries are felt (by the Province) to be a necessary service. However, the granting rates are too high to ensure that the Region can effectively exercise its responsibility and be held accountable for its actions. This is evidenced by the significant underutilization of the Elmira day care centre. Either the rates should be reduced or the responsibility for operation transferred to the Province. The first alternative is probably more attractive; if insufficient fiscal capacity exists, then unconditional transfers should be granted. Under the current system, it appears as if the Region is merely carrying out the work for the Province.

The third largest grant from the Ministry of Community and Social Services in 1976 was given for the 'Homes for the Aged' program. The Regional Municipality received $1,357,404 in operating assistance and $43,389 in capital grants. These grants were awarded under varying conditions and rates depending on the service and needs of patients. Patients were required to pay a specified amount determined by a needs test with the balance of the costs covered by the Province. The rates were somewhat complicated but generally varied from 70 to 100 percent of

the deficit. (For more detail, see the Grants Reform Report, Vol. I, pp. 146-147.) The grant was designed to support a good that was felt to be desirable although its structure was very complicated. Obviously, improvements could be made through simplification and standardization.

One of the smaller grants from this Ministry is for 'Homemakers and Nurses Services'. The Region received $138,611 for providing this service to mothers with children and to the elderly if they were sick or convalescent as an alternative to institutional care in 1976. The grant covered 80 percent of the program costs and was given to those individuals who were felt to be needy after taking a means test.

Once again, the motivation for this grant was based on the fact that it supported a desirable service. The main problem, in this case, revolved around the duplication with the Ministry of Health's Home Care Program covered under OHIP for patients discharged from hospital. It would seem more plausible to rationalize at least the health component of the two programs into the Province's Home Care Program, thus eliminating some duplication of effort and resources.

Finally, the City of Kitchener received $5,109 in capital grants towards 'Elderly Persons' Centres' in 1976. This was given at a rate of 30 percent of the capital cost of erecting, renovating or acquiring recreation facilities for the elderly. As in the case of a number of other grants, this was provided in support of a service which was felt to be important.

1.f. Ministry of Health

The Regional Municipality of Waterloo received $1,660,065 in grants from the Ministry of Health in 1976. Of this total, the Waterloo 'Regional Health Unit' received $1,254,535 for eligible operating expenses at basically a 75 percent rate. This rate varied for different services and the Health Unit charged fees for some of its services supplied to the Province. In addition, the Health Unit obtained capital grants of $4,624 to build or modify community health facilities. This amounted to two-thirds of total capital costs.

The Ministry of Health also provided $386,161 towards the home care program operated by the Health Unit. Finally, the Region received $14,745 in grants for its 'Venereal Disease Control' program at a rate of $7.50 per reported visit or, in effect, 100 percent of costs.

Given the generally accepted importance of health programs, it would seem appropriate to have centralized control of health operations. That is, the Province should engage in setting standards and establishing policies in all health areas including those currently undertaken by the Regional Health Unit. With these jurisdictional responsibilities in mind, the Province should be responsible for total funding as is the case for some of the existing services. In other words, the potential for harmful spill-overs is such that this program should be funded (and one might argue completely funded) by the Province. However, there may be some advantage in allowing the municipalities (or Health Units) to administer these services under provincial guidelines since they are best able to assess

local needs along with avoiding an excessively centralized bureaucracy and some unnecessarily heavy costs.

1.g. Ministry of Agriculture and Food

In 1976, this Ministry granted $30,851 to Wellesley Township and $11,506 to Wilmot Township under the 'Drainage Act'. This grant covered one-third of the costs of draining agricultural land in an attempt to reduce property damage which had previously resulted from flooding.

In addition, the Townships of Wellesley ($32,000), Wilmot ($17,800), and Woolwich ($56,000) all received grants at the rate of 33 1/3 percent under a similar program entitled the 'Agricultural Drainage' grant. As the eligibility criteria were the same for both grants, some projects received two-thirds of the total costs in the form of grants.

In evaluating these grants, it is difficult to justify the duplication involved in having both of them. However, there is some merit in the drainage grant in that it yields positive benefits to other individuals in terms of improving the drainage on adjacent properties and providing better crop yields which may benefit a fairly wide segment of the population.

1.h. Ministry of Housing

The City of Cambridge received $27,030 under the 'Neighbourhood Improvement Program' in 1976. This subsidy was aimed at upgrading

deteriorating residential neighbourhoods. The Province paid 25 percent and the federal contribution was 25 or 50 percent depending on the specific expenditures of the costs of constructing social and recreational facilities, improving utility services, or land acquisition.

Again, this grant was designed to encourage local authorities to provide services which the province deemed to be desirable.

The most significant (financially) grant awarded by the Ministry of Housing was the one given under the 'Ontario Housing Renewal Program'. In 1976, Cambridge received $210,246, Kitchener $150,000 and North Dumfries $15,000. Its purpose was to encourage an upgrading of the existing stock of housing through assistance to low income home owners. The program was fully funded by the Province through partially forgiveable loans administered by the municipalities, who then, re-lent repaid loan funds to new applicants. Unfortunately, this program was complex with respect to the allocation of loans, the degree of forgiveness, the rate of interest, and length of loan. In effect, the municipality's function appeared to be one of administering the provincial scheme.

1.i. Summary of Grants

In summarizing the numerous grants received by the Regional Municipality of Waterloo and the seven area municipalities, it is obvious that most grants are provided on some type of matching basis in an attempt to encourage the provision of different services which are felt, from the provincial government's perspective, to be important. Unfortunately, most of these grants create distortions in the expenditure patterns of recipient

governments without compensating for the spill-overs which are occasionally generated by these goods or services. Obviously, conditional grants should be awarded for services generating measurable and significant spill-overs while unconditional grants are essential in improving the fiscal capacity of the local areas.

Indeed, one might very well argue that greater emphasis should be placed on unconditional grants with correspondingly less emphasis placed on conditional transfers. Such action would simplify the current system, allow the municipalities greater freedom in making decisions on their own expenditure patterns, and generally improve the overall accountability and autonomy of local governments.

C. OTHER REVENUE SOURCES

In assessing the concept of user fees, there are two important questions which should be addressed. The first one deals with the general concept of whether or not user fees should be used in financing urban services. The second one discusses the specific pricing policy adopted for a particular local service or good. While both questions are important, it is not our intention to discuss the second one. Instead, our discussion will revolve around the former.

It is our claim that specific changes could and should be more widely adopted at the local level. Such a policy could cover a number of services including waste removal, fire protection and public recreation to name only a few.[29] The absence of user charges for a number of these services suggests that there is no adequate mechanism for efficiently allocating the particular services which are supplied. Neither is there any effective means of accurately determining the demand for these local services. In the mind of at least one expert, this lack of user charges had lead to, ". . . a good deal of unplanned and implicit redistribution in kind, much of which would probably not be acceptable if it were made explicit. Indeed, the repeated attempt to redistribute everything through inadequate and inefficient pricing may well have resulted in less overall redistribution than might otherwise have been attained."[30]

[29] For an excellent discussion of user charges applied to municipal services, see R. M. Bird, Charging for Public Services, Canadian Tax Foundation, 1976, Part Three.

[30] Ibid., p. 105.

To conclude, attempts to redistribute income ought not to be a municipal responsibility. Indeed, most attempts by local governments to redistribute income through local fiscal policies have generally been inefficient and ineffective. The function of redistribution must be undertaken by the federal or provincial level of government for it is only at this level that a successful redistribution policy can deal with the population at large. Any attempt by local authorities to be more concerned with equity rather than efficiency objectives not only leads to serious distortions in the provision of public services, but also reduces the potential revenue which local municipalities could obtain on their own.

Evaluation of Other Sources of Revenue

It is difficult to undertake a specific evaluation of the remaining revenue sources for local governments. However, it is generally felt there is strong justification for revenues from penalties, licences and a number of other special charges too numerous to catalogue. Such charges may act as deterrents or rights to undertake specific activities and can be adequately justified on that basis.

Payments-in-lieu of taxes are made in specific instances, outlined earlier. Although they generate relatively small sums of revenue, their basic weakness is that they have not increased at the same rate as property taxes. In fact, substantial improvement in terms of revenue yield could be made if the payments were increased according to increases in the value of property for which the payments have been made.

CHAPTER FIVE

ECONOMIES OF SCALE IN THE PROVISION OF LOCAL SERVICES

One of the strongest economic justifications for the formation of regional governments lies in the argument that economies of scale (the average cost of supplying a good or service falls as the quantity provided increases) exist in the provision of public services. This relationship between average cost and output serves to indicate whether or not there are significant economies of scale in the production of the service in question. The existence (i.e. the lowest average cost per unit supplied) of such scale economies could be of vital concern to urban planners and regional policy-makers in deciding whether particular government services should be operated by regional authorities.

Most economies of scale studies in the public sector differ significantly from the economies of scale studies of private firms. The most significant differences are:

1. No assumptions of cost minimization and equilibrium among marginal contributions of factors of production can be made for government production as is done for private firms.

2. The units of measurement (output) are usually number of people served rather than a unit of good or service output.

While the government studies do indicate the expenditures per person on each function for different numbers of people served (i.e. different sized urban areas), they yield no indication as to whether or not the production was efficient or wasteful.

In spite of their potential problems and the general caution which the reader must employ in interpreting the published results, there have been a number of attempts to determine empirically whether economies of scale prevail in the provision of local government services. Perhaps a brief review of some of the more important studies will suffice.

A. HORIZONTALLY-INTEGRATED SERVICES

One of the researchers[31] on this topic has suggested that it should be possible to postulate on *a priori* grounds whether or not economies of scale actually exist. This author states that there are three ways in which government services tend to be organized for production purposes.

First, services may be provided by a number of decentralized production units (horizontal integration). Because of decentralization, an expansion of services will occur through the duplication of what are essentially small organizations. Each newly established production unit can operate in a manner similar to that of already existing organizations. Horizontally integrated services, then, are not expected to show scalar economies (i.e. the long run average cost per unit will be reasonably

[31] W. Z. Hirsch, "The Supply of Urban Services," in H. S. Perloff and L. Wingo, Jr. (eds.), *Issues in Urban Economics*, Resources for the Future Incorporated, Washington, D.C., U.S.A., pp. 477-526.

constant, subject to consideration such as fixed capacity of plants and managerial efficiency constraints) by centralizing their provision in one production unit regardless of the size of the area serviced. In other words, there is no expectation of economies being achieved by shifting the provision of the service away from the local to the regional level of government. Larger municipalities differ from smaller ones primarily in that the former operate a larger number of essentially identical producing units rather than quite different kinds of units.

Empirically, this has been supported in the United States in, at least, two different studies on police protection (see Table 19 - p. 122 - Schmandt-Stephens and Hirsch). In both cases, the authors found no evidence of significant economies. Larger cities have more policemen, more patrol cars and more police stations than smaller cities yet neither of these communities differs much in the number of men per police car or the number of men assigned to a particular police station. Similar results have been suggested for parks and libraries. Once again, large centres have more parks and libraries, but the area or number of users served by these facilities varies little from smaller to larger municipalities.

Further studies on horizontally integrated services have concluded that the provision of primary and secondary education (Table 19 - Keisling and Hirsch) exhibit no economies when supplied on varying scales. By way of contrast, one study on high school education (Table 19 - Riew) found economies existing when operating costs per pupil were regressed on enrolment levels. The trough (lowest per unit cost) was found to exist

at roughly 1,700 students. Riew attributed the economies of scale mainly to the fact that senior high schools require a degree of specialization with regard to teaching staff and facilities which is much higher than that of primary schools and hence the difference in the result for high schools alone when compared with primary and secondary education.

One important and very essential local service which has exhibited economies of scale is that of fire protection. Two U.S. studies (Table 19 - Will and Hirsch) have found significant economies, although the lowest per unit cost tends to vary substantially. In one case, it exists at roughly 300,000 people and in the other case, it exists with a population of 110,000 people.

Part of the explanation for this difference may be a direct result of the methodology employed. In the first study (300,000 people), engineering data were used. This involved the establishment and measurement of a unit of effort for a particular service. This unit of effort was some physical unit or a combination of inputs comprising a work unit, such as a street sweeper and its crew. From this, a measurable output of service was obtained through a direct association of this measure with the effort unit. Once these (units of effort) were identified and measured, their costs were estimated. Hirsch's study, on the other hand, used available statistical data which regressed average per capita cost of fire protection on the varying sizes of the area which was serviced.

In either case, significant economies apparently existed. Whether or not economies of scale exist in the provision of this service, it is necessary to realize that fire protection must be provided in a

number of scattered locations since distance is of utmost importance in travelling from the fire station to the location of a possible fire.

When coupled with relatively expensive transportation services, the lack of significant economies in the provision of a number of urban services suggests that it is feasible to have a reasonably large number of small, scattered producing units rather than a few centralized units. A similar situation is observed in the private sector in the location of grocery stores and gas stations. In either instance, whether private or public, individuals are reluctant to incur the time and expense associated with the transportation to and from the producing unit. Consequently, these services lend themselves to being operated in a decentralized fashion.

A potentially favourable byproduct of this decentralization may result if the local authorities are responsible for providing certain public services themselves. In this instance, the demands of the residents may dictate the kinds and extent of each service provided. As such, individuals in a larger regional area may choose the specific locality best providing the quantity and type of services which they want.

One urban service remaining to be discussed is that of refuse collection. It is occasionally suggested that it could be classified under the headings of a horizontally integrated service (Table 19 - Hirsch and Kitchen). In fact, one study in the United States based on the metropolitan area of St. Louis (Hirsch) concluded that significant economies of scale did not exist in the collection of refuse. By contrast, one of

only two published studies on cost functions of urban services in Canadian towns and cities of more than 10,000 people concluded that the generally accepted relationship between average unit costs and size of the centre serviced did not exist for the centres studied (Kitchen). The standard relationship may take one of two forms; it may either indicate constant average costs as the population increases or it may fall and eventually rise as population rises (this latter is the standard economies of scale example).

In the instance of refuse collection in Canada, the results of the study cited above suggested that average costs rose for the smaller centres (i.e. from 10,000 people up) reaching a maximum in centres of roughly 325,000 people and then declined. Although this would appear to contravene standard economic cost theory, the nature of this service is such that it may be entirely possible. Middle-sized firms may be caught in some sort of efficiency squeeze. Small municipalities (under 10,000) usually have private firms collect refuse by contract and frequently these firms can reduce costs since the owner often works on the truck as well. At very large levels of output (above 325,000 people) advantage can be taken of expensive new equipment, organizational techniques and other cost-reducing factors. In between very small and very large scale, however, it is difficult to benefit in either of these ways.[32]

[32] For descriptive evidence which supports this statistical relationship between cost and output of this service, see D. R. Young, How Shall We Collect the Garbage?, Washington, D.C., Urban Institute, 1972.

B. CIRCULARLY-INTEGRATED SERVICES

A second general category in which the provision of urban services can be classified is that of circularly integrated services. Here, a particular production unit, perhaps city hall, performs a variety of separate but complementary activities. Decreasing unit costs (economies of scale) are initially expected as output increases until some point is reached where unit costs begin to rise (diseconomies of scale). The latter is hypothesized because of managerial constraints which come into effect at high levels of output.

Empirical studies on the existence of economies of scale in circularly integrated services are scarce, but one study on the administration of school districts with 500 to 48,000 pupils in the United States (Table 19 - Hirsch) suggested that economies of scale existed up to an average daily attendance of roughly 44,000 pupils and beyond that level, diseconomies set in.

The lack of more such research is unfortunate with respect to regional governments. It should be remembered that, in many cases, sewage plants or police stations are in the same numbers and the same size as they would probably have been without municipal reorganization. The actual operation has not been moved under one roof, only the administration. The resulting managerial efficiencies are still only hypothetical as far as the economics literature is concerned.

C. VERTICALLY-INTEGRATED SERVICES

Vertically integrated services constitute the third general category into which urban services can be categorized. A service is vertically integrated if the operation of successive levels of production provide combinations of related services for which a uniform pricing policy is followed, as in the pumpage, treatment and distribution of water, or the collection and disposal of refuse. On a priori grounds, these services are expected to face declining unit costs as the level of output increases. As a result, economies of scale will be exhibited until extremely large levels of output are reached.

Under this category, Table 19 lists five different studies which have looked for evidence of economies of scale. In all cases, economies were found to exist over a certain, if not the entire, range of output. For example, Nerlove's study (1961) employed public utility data for 145 privately owned American utilities in 1955. He correlated production costs with physical output, labor, capital and fuel prices on a firm basis and found the coefficient of determination to be statistically significant (.93) thus indicating that economies of scale existed. Similarly, J. Johnston (Table 19 - 1960) and K. S. Lomax (Table 19 - 1951) discovered statistically significant economies of scale in supplying electricity and gas respectively in the United Kingdom.

Of perhaps more importance from a local policy-maker's point of view is the cost output relationship for sewage treatment and water provision. Isard and Coughlin have studied 1953 operating cost data for

secondary treatment sewage plants in Massachusetts. Their correlation analysis based on these data revealed statistically significant declining unit costs as the quantity of sewage treated increased.

Finally, the only Canadian study in this area dealt with the provision of residential water. It statistically tested for both the existence of economies of scale and the impact of a number of other factors including quality parameters, service conditions and input prices (Table 19 - Kitchen, 1977). The results, which were based on a sample of 49 Canadian cities and towns of more than 10,000 people in 1971, suggested that most of the variables tested were statistically significant in terms of their impact on the cost of supplying water. Of particular interest was the fact that economies of scale were found to exist with the lowest per unit cost existing at roughly 1,671 million gallons of water supplied annually. While it was impossible to specify the exact population of the municipality corresponding to this output, it appeared that centres of approximately 25,000 to 35,000 people yielded the lowest per unit cost of output.

Although this discussion has classified services as vertically, horizontally or circularly integrated, it must be realized that such a precise classification is not always possible and perhaps not terribly important. First, institutional and organizational differences among cities and towns may negate the specific categorization of urban services employed above. Second, the level of aggregation that defines a service may influence the classification; for example, if water service were separated into water production and water distribution, it could change

from a vertically to a horizontally integrated service. Third, as suggested at the beginning of this paragraph, it may not be important to make this classification. Policy-makers should be more concerned about whether or not economies of scale actually exist in the provision of urban services or whether they might exist under alternative forms of production or organizational structures rather than whether they are classified in a specific manner.

D. QUALIFICATIONS OF THE EXTANT STUDIES

Although a number of the empirical studies on urban expenditures exhibited some useful evidence of the existence of economies or diseconomies of scale, some of their results must be interpreted with caution. For example, the unit of output which measures the existence of economies of scale is frequently represented by population or as in Hirsch's study (1965) on refuse collection, the number of pickup units in each municipality. Regardless of which proxy is chosen, neither is a perfect substitute for the output measure which should be tons or cubic yards of garbage collected. Unfortunately, such data are almost never collected or retained on any reliable and accurate basis.

Output measures for most of the horizontally and circularly integrated services are particularly deficient; for example, what is the appropriate output measure for education? Is it the number of students taught per year or the number of graduating students, etc.? Similar problems exist in the measurement of output for fire and police protection.

Once again, there are difficulties in carefully selecting the unit of output against which per unit costs must be correlated in order to test for economies of scale. Surely, the most appropriate output measure is the number of crimes or fires prevented, yet, such a statistic is impossible to measure, let alone collect.

Most urban studies tend to be cross-sectional in nature, that is, they tend to look at the cost-output relationship in one specific year for a number of municipalities each with a different population. From this, one can infer certain relationships; for example, it is generally assumed that different cost-output figures for different sized centres would also prevail for any municipality as it grew from a small area to a very large one. This may be a dangerous assumption in that it is not obvious that each municipality will exhibit the same change in its cost-output figures as it grows over time. What would be more appropriate would be an analysis of each city's expenditures on specific functions as they grew over a number of years. Unfortunately, disaggregated time series data are neither consistent nor available over a long enough time period for this type of analysis.

A further problem with measuring economies of scale in the public sector centres around the inability of adequately measuring the quality of service provided and separating this from the cost-quantity relationship. In this case, certain cities may have high costs because they provide a high quality of service.

TABLE 19

AVERAGE UNIT COST CURVE (AUC) STUDIES OF SCALE ECONOMIES

Name and Year	Service	Type[1]	Result
Horizontally Integrated Services			
Riew (1966)	Secondary schools	S	AUC is U-shaped with trough at about 1,700 pupils
Kiesling (1966)	Primary and secondary education	S	AUC is about horizontal
Hirsch (1959)	Primary and secondary education	S	AUC is about horizontal
Schmandt-Stephens (1960)	Police protection	S & Q	AUC is about horizontal
Hirsch (1960)	Police protection	S & Q	AUC is about horizontal
Will (1965)	Fire protection	E	AUC is declining with major economies reached at 300,000 population
Hirsch (1959)	Fire protection	S	AUC is U-shaped with trough at about 110,000 population
Hirsch (1965)	Refuse collection	S	AUC is about horizontal
Kitchen (1976)	Refuse collection	S & Q	AUC is rising then falling with maximum diseconomies at 325,000 population
Circularly Integrated Services			
Hirsch (1959)	School administration	S	AUC is U-shaped with trough at about 44,000 pupils
Vertically Integrated Services			
Nerlove (1961)	Electricity	S	AUC is declining
Isard-Coughlin (1957)	Sewage Plants	S	AUC is declining
Lomax (1951)	Gas	S	AUC is declining
Johnston (1960)	Electricity	S	AUC is declining
Kitchen (1977)	Water Supply	S & Q	AUC is U-shaped with trough roughly 1,671 billions of gallons per year

TABLE 19 Cont'd

AVERAGE UNIT COST CURVE (AUC) STUDIES OF SCALE ECONOMIES

Notes:

[1] S = statistical data Q = questionnaire

E = engineering data AUC = average unit cost

[2] Study Sources:

- John Riew, "Economies of Scale in High School Operation," Review of Economics and Statistics, Vol. 48, (August 1966).
- Herbert J. Kiesling, "Measuring a Local Government Service: A Study of School Districts in New York State," Review of Economics and Statistics, Vol. 51 (August 1966).
- Werner Z. Hirsch, "Expenditure Implications and Consolidation," Review of Economics and Statistics, Vol. 41 (August 1959); "Determinants of Public Education Expenditures," National Tax Journal, Vol. 13 (March 1960); and "Cost Functions of an Urban Government Service: Refuse Collection," Review of Economics and Statistics, Vo. 47 (February 1965).
- Henry J. Schmandt and S. Ross Stephens, "Measuring Municipal Output," National Tax Journal, Vol. 8 (December 1960).
- Robert E. Will, "Scalar Economies and Urban Service Requirements," Yale Economic Essays, Vol. 5 (Spring 1965).
- Marc Nerlove, Returns to Scale in Electricity Supply (Institute for Mathematical Studies in the Social Sciences, Stanford University, 1961), p. 11.
- K. S. Lomaz, "Cost Curves for Gas Supply," Bulletin of the Oxford Institute of Statistics, Vol. 13 (1951).
- J. Johnston, Statistical Cost Analysis (McGraw-Hill Book Co., 1960).
- Walter Isard and Robert E. Coughlin, Municipal Costs and Revenues Resulting from Community Growth (Chandler-David Publishing Co., 1957).
- Harry M. Kitchen, "A Statistical Estimation of an Operating Cost Function for Municipal Refuse Collection," Public Finance Quarterly, Vol. 1, No. 1, 1976, pp. 56-76; "A Statistical Estimation of an Operating Cost Function for Municipal Water Provision," Urban Analysis, 1977, pp. 119-133.

The fact that economies of scale were not discovered in some instances may suggest that many local governments for which data are available may be larger than the scale at which economies are exhausted.

Economies of scale may not have been found for certain services simply because the larger centres (which have data when many smaller centres do not) are faced with paying higher prices for inputs. As such, any economies which otherwise might exist may have been masked by these larger factor costs.

Finally, there are two crucial dimensions to the output of public services; the number of people serviced and the geographical area covered. Although unit costs may fall with the number of people served, they may increase as the size of the area covered increases.

In spite of the qualifications and difficulties of measuring scale-economies, some studies have overcome many of these weaknesses, particularly those which have been able to obtain an actual and accurate unit of output. Examples include gas, electricity, sewage and water -- all studies which were classified as being vertically integrated.

E. REGIONAL/LOCAL RESPONSIBILITY FOR URBAN SERVICES: CONCLUSIONS

Since the empirical work cited above deals with various services in different geographical areas and in different years and at different levels of aggregation, one must be particularly wary of accepting the results and unquestioningly using them as a justification for assigning

different municipal functions to either the regional or local level of government in the Waterloo Region.

Obviously, what is required before this can be done is a careful and critically detailed study on each service in the area, paying particular attention to the determination of a clear and unambiguous measure of output. Similar precision must be exercised in measuring the quality of the output and separating the costs attributed specifically to this measure of quality. Further accuracy is needed in separating the costs attributed to both the price of inputs and to special service conditions which may affect the cost of the service provided.

An example of an urban service which must consider all these factors and the relative effect of each category can be drawn from a study on the provision of residential water in an urban area. The output measure should be gallons of water per time period which could be one day, one month or one year (one year was used in Kitchen's study - Table 19). The quality of treated water must be separated into categories according to the amount of treatment required. The service conditions affecting the cost of water should include a variable indicating the source of water, that is, the cost of using underground water will be quite different from the cost of using surface water. Similar cost differences have been noted in municipalities which purchased their water when compared with municipalities which pumped their own and this might be duly recorded. Factors affecting different prices of inputs need to be included.

Once all of these factors are accounted for, it is possible to make some claims about the existence or lack of existence of economies of scale in the provision of this service. This is done by observing the relationship between the average per unit cost of the service and the quantity of the service supplied.

Although the empirical studies cited earlier do not deal directly with economies as they apply specifically to regional governments, they do provide some insights in terms of the economies which may or may not be realized in urban areas of varying sizes. As such, one can make inferences with respect to the level of government (local or regional) which might be responsible for the provision of specific services in any locality if one of the governmental objectives is to achieve output at the lowest possible per unit cost.

While it is almost impossible to catalogue the precise reasons for this inverse relationship between cost and output as output increases, two specific suggestions have been made. In some cases, organizational and managerial efficiencies are expected to bring about lower costs as the level of service provided increases. In other cases, albeit less frequently, volume discounts are assumed to exist in purchasing specific inputs which are necessary ingredients in the output of a particular urban good or service.

Realizing that the case has occasionally been made for using the economies of scale argument to define an optimal size of local government, there is no reason why this need be so. The optimal sized urban area may be better justified in terms of an ideal size for articulating a homogeneous

demand for a particular good; for example, a small area may encompass all those individuals who have a specific desire for certain urban expenditure programs and as such, this area may be defined as an optimal unit. Similarly, the optimal size may be the size which minimizes the magnitude of 'spill-over effects'.

In neither of these latter two cases is the optimal size necessarily the same or equal to the optimal size essential for achieving maximum economies. In fact, there is no reason to believe that local governments should have the same boundaries as the producer of the good or service.

Local governments can purchase from other governmental units or private producers, and many do. For example, local governments purchase water (in some municipalities) and electricity in bulk from other producers and distribute it to their residents. Indeed, a similar arrangement could be established for almost all urban services. If this approach were followed, there would essentially be no justification or strong rationale for organizing areas in order to achieve maximum economies.

Finally, the practical aspect of this exercise states that it is impossible to establish a municipality of optimum size which will simultaneously achieve the lowest cost per unit of output for all the services concurrently provided by any locality. Hence, the arrangement of political boundaries in order to achieve maximum economies is not a feasible policy. The optimal size of the producing unit must be divorced from the optimum size of the political unit.

CHAPTER SIX

INCREASED INDUSTRIAL ASSESSMENT--A SNARE AND A DELUSION

There are few issues as close to the heart of municipal politicians as increasing the industrial assessment base of a given municipality. Industry, it is argued, provides jobs, stimulates the local economy and reduces residential property tax.

A. INTRODUCTION

A frequently heard, although seldom documented argument in favour of increasing the level of commercial and industrial assessment, revolves around the notion that increases in such assessment will generate property tax revenues in excess of the amount necessary to meet the costs of providing local government services to commercial and industrial property. As such, these 'tax profits' can then be used to subsidize the cost of supplying services to residential property owners. Whether or not 'tax profits' can actually be generated from an increase in the commercial/industrial base is a subject for empirical investigation and is pursued in some detail in the following paragraphs.

Briefly, the analysis adopted in this paper involves an estimation of the effect of increasing a municipality's commercial/industrial equalized assessment base by one million dollars in each of the municipalities in the Waterloo Region in 1976. The benefits accruing

to each municipality come directly from an increase in tax revenue (to be used for financing local, educational and regional expenditures) which is a direct result of the expanded tax base (larger commercial/industrial assessment). The magnitude of the tax increase will depend on the commercial/industrial mill rate (total rate for educational, regional and municipal purposes) which is applied to the new assessment.

On the other hand, there are three factors which will reduce the benefits to each municipality. First, under the assumption that the rest of the municipalities in the Region hold their assessment constant, the municipality with the additional assessment will bear a larger share of the regional and educational levy. This increase will rise in proportion to the increase in equalized assessment now existing in the affected municipality. Second, the Provincial Resource Equalization Grant will decrease as a result of the higher assessment in this area municipality. Third, the local and regional governments (and possibly the Board of Education if additional school children move into the area) will be responsible for financially supporting the annual operating costs of supplying government services to this newly assessed property. Such services will include road repairs and maintenance, street lighting, police and fire protection, etc. These may incur costs in excess of the additional revenue generated by the expanded tax base.

B. ANALYSIS

When equalized commercial/industrial assessment is increased by one million dollars in each of the municipalities, there appears to be, contrary to popular belief, very little, if any, additional revenue

accruing to the municipality. However, before presenting and commenting directly on these results, it may be useful to outline the methodology employed in reaching this conclusion.

Table 20 illustrates the calculated average weighted equalized commercial/industrial mill rate for regional, local and educational purposes in each of the municipalities in the Waterloo Region in 1976. It is essential to note that the stated mill rates are not those which were applied to raw assessment for tax purposes. Instead, these rates were presented so that it was possible to estimate the additional tax revenue resulting from an increase of one million dollars of equalized commercial/industrial assessment. The actual mill rate could be obtained by multiplying the equalized mill rate by the ratio of equalized to raw assessment. Finally, the use of weighted average mill rates for each of the merged areas was necessitated by the fact that each merged area of each municipality had a mill rate which was generally different from that in the other merged areas.

Table 21 exhibits the effect on the regional levy resulting from an expanded tax base in each of the area municipalities in 1976. For example, column 2 indicates the additional regional levy which each of the municipalities would be required to pay if it acquired the increased assessment while each of the remaining areas held their commercial/industrial assessment constant. Obviously, the Township of Wellesley would suffer the largest increase ($7,747) in the regional levy with Kitchener bearing the smallest increase ($4,249) and the remaining areas falling between these extremes. Of interest here is the fact that

TABLE 20

Average Weighted Equalized Commercial/Industrial Mill Rates in the Waterloo Region in 1976

Municipality	Average Weighted Equalized C/I Mill Rate for General Local Purposes	Average Weighted Equalized C/I Mill Rate for Regional Purposes	Average Weighted Equalized C/I Mill Rate for Educational Purposes	Total C/I Mill Rate
(1)	(2)	(3)	(4)	(5)
Kitchener	10.649	5.223	12.594	28.466
Cambridge	12.861	4.709	11.112	28.682
Waterloo	6.617	4.454	11.004	22.075
Woolwich	4.633	3.974	10.636	19.243
Wilmot	6.120	3.407	9.664	19.191
Wellesley	4.548	2.909	9.744	17.201
North Dumfries	3.210	3.367	8.826	15.403

Source: The use of average weighted mill rates for each of the area municipalities was necessitated by the fact that each merged area of the area municipalities had a mill rate which was not the same across the entire area.

These mill rates were calculated by dividing the existing total Commercial/Industrial levy by total equalized Commercial/Industrial assessment in each area. To obtain the actual mill rate on raw assessment, one was required to multiply the equalized mill rate by the ratio of equalized to raw Commercial/Industrial assessment. Since this ratio was considerably larger than unity, the resultant applicable mill rate was much greater than the calculated mill rates in this table.

Data were obtained from data in schedules 1-2 and 1-3 of the financial statements of the area municipalities.

TABLE 21

Effect on the Regional Levy Resulting from an Additional One Million Dollars of Equalized Commercial/Industrial Assessment in Each of the Area Municipalities in 1976

Municipality	Increase in Regional Levy Resulting from One Million Dollars of Additional Equalized Commercial/ Industrial Assessment	Reduction in Regional Levy on Other Municipalities						
		Kitchener	Cambridge	Waterloo	Wool-wich	Wellesley	Wilmot	North Dumfrie
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	$	$	$	$	$	$	$	$
Kitchener	4249	-	1783	1522	429	125	253	137
Cambridge	6089	3623	-	1522	429	125	253	137
Waterloo	6350	3623	1783	-	429	125	253	137
Woolwich	7443	3623	1783	1522	-	125	253	137
Wellesley	7747	3623	1783	1522	429	-	253	137
Wilmot	7619	3623	1783	1522	429	125	-	137
North Dumfries	7735	3623	1783	1522	429	125	253	-

Source: Obtained by changing the equalized commercial/industrial assessment in each of the area municipalities and calculating the increase in the regional levy in that locality along with the reduction in the regional levy for each of the other area municipalities. Data were obtained from the financial statements of each of the area municipalities for 1976.

the predominantly rural municipalities would have borne larger increases in the levy than the predominantly urban areas. Whereas column 2 outlines the increase in the regional levy, columns 3 to 9 illustrate the corresponding reduction in the levy imposed on the other municipalities as a result of their commercial and industrial (C/I) assessment remaining constant. For instance, an additional one million dollars of C/I assessment in Cambridge would increase its levy by $6,089 while correspondingly reducing Kitchener's contributions by $3,623, Waterloo's by $1,522, Woolwich's by $429, Wilmot's by $253, North Dumfries' by $137 and Wellesley's by $125. Similar observations can be made about the impact on the regional levy resulting from higher assessment in each of the other areas.

Column 2 of Table 22 furnishes us with data on the impact of the additional assessment on the level of educational taxes generated in each area assuming that the education mill rate did not change when the tax base was expanded. These figures were obtained by multiplying the mill rate from column 4 of Table 20 by one million dollars and dividing this figure by 1000. As was true in Table 21, columns 3 to 9 illustrate the reduction in the educational tax in six of the area municipalities when the tax base was enlarged in the seventh. For example, an expansion of one million dollars in commercial/industrial assessment in Kitchener suggests that Kitchener would have paid $12,594 more in total educational taxes while each of the remaining areas would have paid less, with Cambridge receiving the greatest reduction ($5,778) and Wellesley the least ($149). Similar comments can be made about the other areas presented in Table 22.

TABLE 22

Effect on Educational Tax Resulting from an Additional One Million Dollars of Equalized Commercial/Industrial Assessment in Each of the Area Municipalities in 1976

Municipality (1)	Increase in Educational Tax Resulting from an Expanded Tax Base[1] (2)	Reduction in Education Taxes in Other Municipalities[2]						
		Kitchener (3)	Cambridge (4)	Waterloo (5)	Wool-wich (6)	Wellesley (7)	Wilmot (8)	North Dumfries (9)
	$	$	$	$	$	$	$	$
Kitchener	12,594	-	5778	4499	1367	438	149	366
Cambridge	11,112	7464	-	2408	732	234	80	196
Waterloo	11,004	6963	2884	-	682	219	74	183
Woolwich	10,636	5893	2441	1901	-	185	63	155
Wilmot	9,664	5164	2139	1666	506	-	55	136
Wellesley	9,744	5149	2133	1661	505	162	-	135
North Dumfries	8,826	4703	1948	1517	461	148	50	-

[1] Obtained by multiplying the education mill rate (column 4 of Table 20) by one million dollars.

[2] The reduction in education taxes in each area municipality was in proportion to the total education taxes borne by that area. The sum of the reductions must equal the increase since overall total educational tax revenue did not increase as a result of additional C/I assessment.

Table 23 exhibits the net general benefits (column 7) accruing to each of the area municipalities if the tax base had been increased by an extra million dollars of equalized C/I assessment while each of the other areas continued with their existing tax base. The direct benefits arose from additional taxes which could now be collected (column 2). These are obtained by multiplying the total equalized weighted mill rate (column 5 of Table 20) by one million dollars and dividing this figure by 1000. Obviously, Cambridge would stand to gain the most ($28,682) while North Dumfries would gain the least ($15,403).

The direct costs, on the other hand, consist of an increase in the regional levy (column 3), an increase in the portion of educational tax borne by that area (column 4) and a reduction in the value of the resource equalization grant which was received for local purposes (column 5). Column 7 illustrates the net benefits by subtracting the additional direct costs or debits from the additional tax revenue or credit.

In two cases (Wellesley and North Dumfries), the municipality would be suffering outright losses as a result of expanding their commercial/industrial tax base by one million dollars of equalized assessment. In neither of the remaining cases were the benefits significantly large. The largest net gain appeared to be in Waterloo ($4,721) with the remaining areas falling some distance behind. In descending order, Kitchener stood to gain $2,676, Cambridge $2,005, Wilmot $1,139, and Woolwich $929.

TABLE 23

The Impact of An Additional One Million Dollars of Equalized Commercial/Industrial Assessment in Each of the Area Municipalities in the Waterloo Region 1976 [1]

Municipality	Additional Tax Revenue[2] (Credit)	Increased Regional Levy[3] (Debit)	Increased Educational Taxes[4] (Debit)	Reduction in Resource Equalization Grant[5] (Debit)		Net General Benefits to each area Municipality[6]
				Local	Regional	
(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)-(3)-(4)-(5)
	$	$	$	$	$	$
Kitchener	28,466	4249	12,594	8947	4296	2676
Cambridge	28,682	6089	11,112	9476	3573	2005
Waterloo	22,075	6350	11,004	0	0	4721
Woolwich	19,243	7443	10,636	235	200	929
Wellesley	17,201	7747	9664	1450	933	(1660)*
Wilmot	19,191	7619	9744	689	354	1139
North Dumfries	15,403	7735	8826	0	0	(1158)*

* Figures in parentheses indicate a net loss.

1 The figures in this table do not include the operating costs of supplying additional services in each of the areas. Very simply, this is justified since it is virtually impossible to calculate accurately such costs.

2. These figures were obtained by applying the equalized mill rate for the total of educational, regional and local purposes to one million dollars of equalized commercial/industrial assessment. See Table 20.

3 Column 3 was obtained from Table 21.

4 Column 4 was obtained from Table 22.

5 Columns 5 and 6 were calculated via a rather complicated series of steps which were supplied by the Intergovernmental Finance and Grants Policy Branch, Ministry of Treasury, Economics and Intergovernmental Affairs, Ontario Government. A portion of the Resource Equalization Grant is for Regional purposes while the bulk of it is for local purposes.

6 Column 7 equals the additional tax revenue minus the higher educational (column 4) and regional (column 5) levies and minus the reduction in the local resource equalization grant. The reduction in the regional portion of the Resource Equalization Grant (column 6) was not considered since our interest is solely in terms of the effects in each of the area municipalities.

Source: Tables 20, 21, and 22

One of the most significant deficiencies in the analysis so far revolves around the lack of any information or data on the annual operating costs or maintenance of supplying services to this newly assessed property. Indeed, this has not been an oversight but has been deliberately ignored for there are really no accurate estimates of these costs. Perhaps the most appropriate rule of thumb to follow is that which was suggested in the Soroka Report (L.A. Soroka, Public Finance in the Niagara Region, A Background Report for the Niagara Region Study Review Commission, August 1976, p. 53), namely that costs of servicing commercial/industrial property range from 70 to 100 percent of the taxes collected for municipal purposes (whether supplied by the local or regional government).

Accepting the lower of these two figures, Table 24 suggests that every municipality in the Region would have been a loser in terms of generating 'tax profits' in 1976 had it attracted one million dollars of industrial assessment. Although this conclusion may be questioned in that we have assumed an increase in servicing costs, it is a conclusion which is virtually identical to that for the various municipalities in the Niagara Regions for 1974 and reported in the Soroka Report (p. 53). In addition, the exclusion of costs from our analysis (Table 23) yielded results not very dissimilar from those reported on a similar basis for the area municipalities in the Niagara Region (see p. 52, Table 2-1 of the Soroka Report) for 1974.

TABLE 24

Net General Benefits (1976) Including the Operating Cost of Servicing the Property on the Assumption that Operating Costs Total to 70 percent of Total Regional and Local Taxes

Municipality	Net General Benefits Excluding Cost of Supplying Municipal and Regional Services[2]	Cost of Services Assumed to be 70 percent of Regional and Local Taxes[2]	Net General Benefits Including Cost of Supplying Services[3]
(1)	(2)	(3)	(4)
	$	$	$
Kitchener	2676	11,110	(8434)
Cambridge	2005	12,299	(10,294)
Waterloo	4721	11,071	(6350)
Woolwich	929	6025	(5096)
Wellesley	(1160)	5220	(6880)
Wilmot	1139	6669	(5530)
North Dumfries	(1158)	4604	(5762)

( ) figures in parentheses indicate a loss.

1 Obtained from column 7 of Table 23

2 Calculated by taking 70 percent of regional and local taxes collected on the additional one million dollars of equalized commercial/industrial assessment

3 Column 4 is obtained by subtracting column 3 from column 2.

From our preceding discussion, the most obvious conclusion which one might draw is that a municipality would be better off to encourage industry to locate elsewhere in the Region in order to benefit from a reduced share of the regional levy and reduced educational taxes.

Table 25 illustrates the net benefits which any six of the municipalities would incur if one million dollars of additional equalized commercial/industrial assessment were added into the seventh area. For example, if Cambridge increased its equalized C/I assessment by the stated amount, Kitchener would stand to benefit by $11,087 for this would be the reduction in educational taxes ($7,464 from column 3 of Table 22) plus the reduction in the regional levy ($3,623 from column 3 of Table 21) which the taxpayers in the municipality of Kitchener would now pay. Similar comments can be drawn from the figures for the remaining communities in the Waterloo Region. Indeed, Kitchener would benefit more than any other municipality if this assessment were added to one of the remaining area municipalities, while Wellesley would benefit the least.

In fact, the benefits for Kitchener from having this assessment in an adjacent community within the Region far exceed the benefits from having it within its own boundaries even if one assumes there are no annual operating costs associated with servicing the newly assessed property. Column 2 of Table 24 suggests the net benefits to Kitchener taxpayers with zero servicing costs would be $2,676, roughly one-third to one-quarter of the benefits from having the assessment located elsewhere (column 2 of Table 25).

TABLE 25

Net Benefits to Other Municipalities Arising from an Additional One Million Dollars of Equalized Commercial/Industrial Assessment in Each of the Area Municipalities in 1976

An Additional One Million Dollars of Equalized Commercial/Industrial Assessment in: (1)	Benefits to the Other Municipalities[1]						
	Kitchener (2)	Cambridge (3)	Waterloo (4)	Woolwich (5)	Wellesley (6)	Wilmot (7)	North Dumfries (8)
	$	$	$	$	$	$	$
Kitchener	-	7561	6021	1796	274	840	503
Cambridge	11,087	-	3930	1161	205	487	333
Waterloo	10,586	4667	-	1111	199	472	320
Woolwich	9516	4224	3423	-	188	438	292
Wellesley	8772	3916	3183	934	-	415	272
Wilmot	8787	3922	3188	935	180	-	273
North Dumfries	8326	3731	3039	890	175	401	-

1 The benefits include the total of the reduction in the regional levy (columns 3 to 9 of Table 23) now borne by each of the area municipalities.

If servicing costs are zero in each of the other municipalities, then the Township of Wilmot is the only one to gain significantly by having the new assessment locate within its boundaries rather than elsewhere in the Region. Waterloo would also gain if the assessment were located anywhere within the Region other than in Kitchener, in which case the net gains would not be as great. On the other hand, if servicing costs are greater than zero, then it is highly unlikely, as stated above, that any of the municipalities would earn 'tax profits' by increasing their equalized commercial/industrial assessment by one million dollars while the other municipalities held their corresponding assessment fixed.

C. SUMMARY

While this analysis was based on the addition of one million dollars of C/I assessment, this figure was simply chosen as a benchmark whereby an analysis of the impact of additional assessment could be undertaken. Indeed, a figure of ten million or one hundred million dollars of extra assessment might have been used. For example, this additional one million dollars would have ranged from less than one-tenth of one percent of existing total equalized assessment in Kitchener (the lowest) to 2.3 percent of the corresponding figure in Wellesley (the highest). For Cambridge and Waterloo, it represented roughly one-fifth of one percent rising to three-fifths of one percent in Woolwich and further increasing to 1.1 percent and 2.0 percent in Wilmot and North Dumfries respectively.

Furthermore, the imposition of this increased assessment would only slightly change the mix of property taxes collected from the residential vis-a-vis the commercial/industrial sector. In fact, the commercial/industrial sector would now pay an insignificantly larger amount (less than one percent of actual taxes collected) of the total tax burden in each of the merged areas.

In spite of the relatively insignificant impact which was undoubtedly caused by changing our assessment by a comparatively small amount, the analysis does suggest a number of consequences which must be carefully pursued before indiscriminately attempting to attract new commercial/industrial assessment in order to generate 'tax profits.' Indeed, as was illustrated above, it might be in the best interests of a specific municipality to encourage industry to locate in an adjacent community within the Region so as to avoid the associated costs and yet reap the benefits from a reduced regional levy, a lower proportion of the total education tax bill, and a stimulus to the area economy.

The analysis conducted in this paper is based on a number of assumptions, most of which are implicit and perhaps obvious. Fortunately these assumptions are neither unrealistic nor impractical, yet some of them should be reiterated for it may affect the conclusions which one draws.

For instance, this analysis assumed that an enlarged tax base of one million dollars arose in one area with all the other areas remaining unchanged in terms of their total assessment. To the extent that all areas experience increases in assessment simultaneously, then

the regional levy and the Resource Equalization Grant will not change in the proportions outlined in the above analysis. Nevertheless, such a change could be accommodated and handled very effectively by employing the same analytical format as presented above.

Further, it was assumed that the existing average commercial/industrial mill rate for local, regional and educational purposes would apply if the assessment base increased. Once again, this may not be the case, yet our analysis could easily accommodate any assumption about the applicable rates.

Similarly, increases in assessment may lead to increases in population and if so, the Resource Equalization Grant would not have changed in the predicted manner. However, this result could be easily altered to reflect population changes. Indeed, similar comments could be made about the remaining assumptions and appropriate adjustments made in the calculations.

In short this chapter has presented the more salient features associated with the calculation of net revenue gains or losses which might have resulted from an enlarged tax base in each of the area municipalities in the Waterloo Region for the year 1976. It suggested that an increase in commercial/industrial assessment would not have generated 'tax profits'. Indeed, it is more likely that outright losses would have been generated. The argument that new assessment is necessary in order to prevent residential property taxes from increasing is highly questionable, particularly if it leads to competition among

the different area municipalities for this expanded assessment base.

However, all of this is not to suggest that additional commercial/industrial development is to be discouraged. In fact, there are strong arguments which can be made for having an expanded commercial/industrial sector since it may create a number of employment opportunities which are clearly desirable for an increasing population.

APPENDIX A

EXPENDITURES BY FUNCTION

Source: Calculated from data included in the Financial Data Base, May 1978, Waterloo Region Review Commission, ch. 2,3.

APPENDIX A

Revenue Sources	1969			1970			1971			1972		
	Revenue	Rev.per House hold	%	Revenue	Rev.per House hold	%	Revenue	Rev.per House hold	%	Revenue	Rev.per House hold	%
Property Taxes (inc. Education)	$42,985,098	$618.22	54.1	$46,554,120	$618.09	51.2	$50,325,195	$645.21	48.7	$51,199,084	$623.77	45.8
Special Charges	2,126,813	30.59	2.7	2,235,931	29.69	2.5	2,378,148	30.49	2.3	2,760,706	33.63	2.5
Payments-in-lieu	566,119	8.14	0.7	819,003	10.87	0.9	1,047,165	13.43	1.0	1,179,405	14,37	1.1
User Fees	4,067,500	58.50	5.1	4,211,749	55.92	4.6	4,452,435	57.08	4.3	4,625,485	56.35	4.1
Unconditional Grants	1,498,927	21.56	1.9	1,593,967	21.16	1.8	1,804,822	23.14	1.7	2,521,640	30.72	2.2
Conditional Grants	21,524,271	309.57	27.1	27,462,767	391.17	30.2	35,713,134	457.87	34.6	41,033,513	499.92	36.7
Other	6,698,091	96.33	8.4	7,943,165	105.46	8.8	7,574,805	97.12	7.4	8,830,397	107.58	7.9
TOTAL	79,466,819	1142.90	100	90,820,702	1205,80	100	103,238,700	1323.61	100	112,150,230	1366.35	100

APPENDIX A

Revenue Sources	1973			1974			1975			1976		
	Total Revenue	Rev.per House hold	%	Total Revenue	Rev.per House hold	%	Total Revenue	Rev.per House hold	%	Total Revenue	Rev.per House hold	%
	$	$		$	$		$	$		$	$	
Property Taxes (Incl. Education)	54,529,556	629.78	42.9	62,393,191	697.67	42.7	74,409,693	794.41	42.2	83,608,728	857.62	42.4
Special Charges	2,343,156	32.84	2.2	3,272,158	36.64	2.2	4,035,976	43.62	2.3	3,813,850	39.12	1.9
Payments-in-lieu	1,707,889	19.72	1.3	1,854,409	20.77	1.3	2,093,584	22.35	1.3	2,154,467	22.10	1.1
User Fees	4,855,413	56.08	3.8	5,589,152	62.59	3.8	5,859,858	62.56	3.3	7,444,003	76.36	3.8
Unconditional Grants	10,050,754	116.08	7.9	10,959,055	122.72	7.5	13,366,139	142.70	7.6	13,860,872	142.18	7.0
Conditional Grants	44,166,486	510.09	34.8	49,965,217	559.51	34.3	63,962,618	682.88	36.2	68,514,533	702.79	34.8
Other	8,859,283	102.32	7.1	11,943,526	133.74	8.2	12,739,051	136.00	7.2	17,581,446	180.34	8.9
TOTAL	127,012,537	1466.91	100	145,886,618	1633.63	100	176,516,910	1884.52	100	196,987,899	2020.62	100

APPENDIX B

REVENUE SOURCES

Source: Calculated from data included in the Financial Data Base, May 1978, Waterloo Region Review Commission, ch. 2,4.

APPENDIX B

Expenditures by Function	1969			1970			1971			1972		
	Total ($) Expenditures	$ Household	%	Total ($) Expenditures	$ Household	%	Total ($) Expenditures	$ Household	%	Total ($) Expenditures	$ Household	%
General Government	3,749,257	53.92	4.7	3,588,736	47.65	3.9	4,036,340	51.75	4.0	4,876,978	59.42	4.4
Protection of Property & Persons	6,569,367	94.48	8.3	7,566,589	100.46	8.3	9,042,463	115.93	9.0	10,179,200	124.02	9.2
Transportation Services	11,728,395	168.68	14.8	13,373,336	177.55	14.7	12,663,565	162.36	12.6	13,417,781	163.47	12.2
Environmental Services	2,923,411	42.04	3.7	3,270,897	43.43	3.6	3,747,463	48.05	3.7	3,879,455	47.26	3.5
Health Services	1,760,568	25.32	2.2	2,141,804	28.44	2.3	2,479,918	31.79	2.5	2,280,609	27.79	2.1
Social Family Services	2,021,043	29.07	2.6	3,563,289	47.31	3.9	5,923,928	75.95	5.9	5,949,971	72.49	5.4
Recreational & Cultural Services	4,282,073	61.59	5.4	4,830,795	64.14	5.3	5,455,630	69.96	5.5	6,341,380	77.26	5.7
Planning & Development	1,240,997	17.96	1.6	1,081,323	14.34	1.2	1,817,085	23.30	1.8	1,008,087	12.28	0.9
Education	41,440,369	596.00	52.4	48,049,882	637.95	52.7	51,289,461	657.57	51.2	57,317,720	698.32	51.9
Waterworks	1,795,171	25.82	2.3	2,090,041	27,75	2.3	2,006,735	25.73	2.0	3,143,379	38.30	2.9
Transit	1,363,658	19.61	1.7	1,509,316	20.04	1.7	1,641,235	21.04	1.6	1,788,213	21.79	1.6
Other	134,712	1.94	0.2	151,864	2.02	0.1	147,493	1.89	0.2	196,496	2.39	0.2
TOTAL	79,017,021	1136.43	100	91,217,872	1211.08	100	100,251,330	285.31	100	110,379,269	134.78	100

APPENDIX B

Expenditure by Function	1973			1974			1975			1976		
	Total ($) Expenditures	$ Household	%	Total ($) Expenditures	$ Household	%	Total ($) Expenditures	$ Household	%	Total ($) Expenditures	$ Household	%
General Government	6,342,821	73.26	5.1	6,606,785	73.98	4.6	8,464,326	90.37	4.9	12,078,791	123.90	6.0
Protection of Persons & Property	12,550,614	144.95	10.1	15,926,006	178.34	11.0	19,062,759	203.52	11.1	21,517,383	220.72	10.8
Transportation Services	14,246,134	164.53	11.5	15,796,237	176.89	10.9	18,586,514	198.43	10.8	20,412,026	209.38	10.2
Environmental Services	5,388,235	62.23	4.4	6,142,528	68.78	4.3	7,127,337	76.09	4.1	7,786,826	79.87	3.9
Health Services	2,194,375	25.34	1.8	2,505,542	28.06	1.7	2,927,601	31.26	1.7	3,105,761	31.86	1.5
Social & Family Services	6,571,252	75.89	5.3	8,558,589	95.84	5.9	10,549,225	112.63	6.1	10,127,629	103.89	5.1
Recreational & Cultural Services=	8,105,632	93.61	6.6	9,290,459	104.03	6.4	11,599,107	123.83	6.7	13,175,035	135.14	6.6
Planning & Development	1,836,407	21.21	1.5	2,221,450	24,88	1.5	2,554,076	27.27	1.5	2,656,697	27.25	1.3
Education	60,560,275	699.43	48.9	68,789,979	770,31	47.7	81,968,738	875.11	47.7	98,097,718	1006.25	49.0
Waterworks	3,219,683	37.19	2.6	4,043,680	45.28	2.8	4,626,759	49.40	2.7	5,107,811	52.39	2.6
Transit	2,616,496	30.22	2.1	4,006,102	44.86	2.8	4,420,107	47.19	2.6	5,794,765	59.44	2.9
Other	104,914	1.21	0.1	466,733	5.23	0.4	61,105	0.65	0.1	200,636	2.06	0.1
TOTAL	123,736,838	1429.08	100	144,354,080	1616.47	100	171,947,630	1835.74	100	200,061,078	2052.14	100

APPENDIX C

1976 PROVINCIAL GRANTS TO REGION OF WATERLOO MUNICIPALITIES BY MINISTRY

Source: Ministry of Treasury and Economics

APPENDIX C

1976 PROVINCIAL GRANTS TO REGION OF WATERLOO MUNICIPALITIES BY MINISTRY

Ministry of Agriculture and Food (Fiscal Year)	Regional Munic. Waterloo	City Cambridge	City Kitchener	City Waterloo	Township N. Dumfries	Township Wellesley	Township Wilmot	Township Woolwich	Total
Drainage Act						30,851	11,506	--	42,357
Agricultural Drainage						32,000	17,800	56,200	106,000
						62,851	29,306	56,200	148,357
Ministry of Community & Social Services (Fiscal Year)									
G.W.A.	3,705,167								3,705,167
G.W.A. Administrative	503,175								503,175
C.A.S.	1,720,015							48,150	1,768,165
Day Nurseries (Cap)	64,301								64,301
Day Nurseries (Oper)	670,075								670,075
Homes for the Aged (Oper)	1,357,404								1,357,404
Homes for the Aged (Cap)	43,389								43,389
Homemakers and Nurses	138,611								138,611
Elderly Persons' Centres (Cap)			5,109						5,109
Elderly Persons' Centres (Oper)									
Youth Employment - Handicapped									
	8,202,137		5,109					48,150	8,255,396
Ministry of Culture & Recreation (April 1-December 31)									
Community Recreation Centres		7,750	202,860	18,143		11,113	43,721		283,587
Local Museums - Operating			8,000						8,000
Public Libraries - Per Capita	19,642	119,139	221,388	82,396					442,565
Public Libraries - Wintario		9,000	8,527	6,000					23,527
Programs of Recreation		9,000	12,000	9,000	6,000	5,400	6,000	6,000	53,400
	19,642	144,889	452,775	115,539	6,000	16,513	49,721	6,000	811,079
Ministry of the Environment (Calendar Year)									
Oversize Facilities in Restructed Area	4,530								4,530
	4,530								4,530
Ministry of Health (Calendar Year)									
Venereal Disease Control	14,745								14,745
Local Health Units - Capital	4,624								4,624
Local Health Units - Home Care	386,161								386,161
Local Health Units - Operating	1,254,535								1,254,535
	1,660,065								1,660,065

APPENDIX C

1976 PROVINCIAL GRANTS TO REGION OF WATERLOO MUNICIPALITIES BY MINISTRY

	Regional Munic. Waterloo	City Cambridge	City Kitchener	City Waterloo	Township N. Dumfries	Township Wellesley	Township Wilmot	Township Woolwich	Total
Ministry of Housing (Calendar Year)									
O.H.A.P. Study Grant									27,030
Neighbourhood Improvement Program		27,030							375,246
Ontario Housing Renewal Program		210,246	150,000		15,000				
		237,276	150,000		15,000				402,276
Ministry of Natural Resources (Fiscal Year)									
Administration	379,824								379,824
Water and Related Land Management	846,216								846,216
Conservation & Recreation Land Management	226,106								226,106
Supplementary	363,647								363,647
Youth Corps - Experience Program	83,308								83,308
	1,899,101								1,899,101
Ministry of Transportation & Communications (Calendar Year)									
Road Construction and Maintenance	3,573,978	1,587,768	3,082,886	670,343	99,236	145,033	217,600	254,403	9,631,247
Transit Capital		284,000	3,001,000						3,285,000
Transit Operating		239,000	1,217,000	111,000					1,567,000
	3,573,978	2,110,768	7,300,886	781,343	99,236	145,033	217,600	254,403	14,483,247
T.E.I.A.									
Unconditional Grants									
- Resource Equalization (Entitlement)		2,099,301	1,130,887			89,330	93,153	4,404	3,417,075
- General Support (Entitlement)	937,183	681,437	1,077,737	284,516	17,318	22,570	67,919	72,569	3,161,249
- Per Capita, General (Entitlement)		630,738	1,172,052	436,212	44,064	57,105	93,915	142,443	2,576,529
- Per Capita, Policing (Entitlement)		840,984	1,562,736	581,616	58,616	58,752	125,220	189,924	3,435,372
- Per Capita, Density (Entitlement)					24,480	31,725	52,175	79,135	187,515
Special Assistance (Fiscal Year)									
Transitional Grant (Fiscal Year)		57,600	45,000	627,743	116,216	107,622	215,471	261,923	1,431,575
Planning Grants (Calendar Year)	50,000								50,000
Statutory Grants (Calendar Year)	35,000								35,000
Student Involvement in Mun. Admin. (Calendar Year)	3,300								3,300
	1,025,483	4,310,060	4,988,412	1,930,087	260,830	384,492	647,853	750,398	14,297,615
TOTAL	16,384,936	6,802,993	12,897,182	2,826,969	381,066	608,889	944,480	1,115,151	41,961,666